Material Safety Data Sheet

Material Name: ALUMIPREP® 33

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name ALUMIPREP® 33
Manufacturer Information
Henkel Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI  48071

Contact Phone: (248) 583-9300
Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-38-2</td>
<td>Phosphoric acid</td>
<td>10-30</td>
</tr>
<tr>
<td>111-76-2</td>
<td>Ethylene glycol n-butyl ether</td>
<td>10-30</td>
</tr>
<tr>
<td>7778-77-0</td>
<td>Dihydrogen potassium phosphate</td>
<td>1-10</td>
</tr>
<tr>
<td>Proprietary</td>
<td>Alkylphenol ethoxylates</td>
<td>1-10</td>
</tr>
</tbody>
</table>

Component Related Regulatory Information
This product may be regulated, have exposure limits or other information identified as the following: Phosphorus compounds, inorganic, Glycol ethers, Alkylphenol ethoxylates, Alkyl phenol, n.o.s..

*** Section 3 - Hazards Identification ***

Emergency Overview:
DANGER -- CORROSIVE! COMBUSTIBLE! Contact with this material will cause burns to the skin, eyes and mucous membranes. Product contains a glycol ether which caused blood disorders in rabbits.

Eye Contact:
This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:
Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns. Following skin exposure to this product, the sensation of irritation or pain may be delayed.

Skin Absorption:
A component in this product may be harmful or fatal if absorbed through the skin.

Ingestion:
This product may produce corrosive damage to the gastrointestinal tract if it is swallowed. May cause dizziness, incoordination, headache, nausea, and vomiting.

Inhalation:
Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract. Inhalation of mists or vapors may produce upper airway edema, wheezing, pulmonary edema, pneumonitis and respiratory failure.

Medical Conditions Aggravated by Exposure:
Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:
In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:
Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention.

Ingestion:
If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.
Inhalation:
If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician
Provide general supportive measures and treat symptomatically.

*** Section 5 - Fire Fighting Measures ***

<table>
<thead>
<tr>
<th>Flash Point:</th>
<th>145 °F (62.8 °C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method Used:</td>
<td>T.C.C.</td>
</tr>
<tr>
<td>Flammability Classification:</td>
<td>Combustible</td>
</tr>
</tbody>
</table>

Upper Flammable Limit (UFL): Not applicable
Lower Flammable Limit (LFL): Not applicable

Fire & Explosion Hazards:
Fire and explosion hazards are moderate when this product is exposed to heat or flame. Vapors are heavier than air and may travel along the ground to some distant source of ignition and flash back.

Decomposition Products:
Irritating and toxic gases or fumes may be released during a fire.

Extinguishing Media:
Dry chemical, foam, carbon dioxide, water fog. Use any media suitable for the surrounding fires.

Fire-Fighting Instructions:
Firefighters should wear full protective clothing including self contained breathing apparatus.

*** Section 6 - Accidental Release Measures ***

Containment Procedures:
Stop the flow of material, if this is without risk. Wear appropriate protective equipment and clothing during clean-up.

Clean-Up Procedures:
Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of collected material according to regulation.

*** Section 7 - Handling and Storage ***

Handling Procedures:
Do not get this material in your eyes, on your skin, or on your clothing. Wash thoroughly after handling. Do not inhale vapors or mists of this product. Keep this product from heat, sparks, or open flame. For industrial use only.

Storage Procedures:
Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Do not pressurize, cut, heat or weld containers. Empty product containers may contain product residue. Do not reuse empty containers. Manufacturer recommends storing above 40 °F. Thaw and mix thoroughly if frozen. Do not store above 100 °F.

*** Section 8 - Exposure Controls / Personal Protection ***

Exposure Guidelines:
A: General Product Information
Follow all applicable exposure limits.

B: Component Exposure Limits
Phosphoric acid (7664-38-2)

ACGIH: 1 mg/m³ TWA
OSHA: 1 mg/m³ TWA
NIOSH: 1 mg/m³ TWA
3 mg/m³ STEL
3 mg/m³ STEL
3 mg/m³ STEL
Ethylene glycol n-butyl ether (111-76-2)

ACGIH: 20 ppm TWA
OSHA: prevent or reduce skin absorption
50 ppm TWA; 240 mg/m³ TWA
NIOSH: 5 ppm TWA; 24 mg/m³ TWA
Potential for dermal absorption

Engineering Controls:
Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

PERSONAL PROTECTIVE EQUIPMENT
As prescribed in the OSHA Standard for Personal Protective Equipment (29 CFR 1910.132), employers must perform a Hazard Assessment of all workplaces to determine the need for, and selection of, proper protective equipment for each task performed.

Eyes/Face Protective Equipment:
Wear chemical goggles; face shield (if splashing is possible).

Skin Protection:
Use impervious gloves. Use of impervious apron and boots are recommended. Gloves should be tested to determine suitability for prolonged contact.

Respiratory Protection:
If ventilation is not sufficient to effectively prevent buildup of aerosols or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

Work Practices:
Eye wash fountain and emergency showers are recommended.

*** Section 9 - Physical & Chemical Properties ***

<table>
<thead>
<tr>
<th>Physical State:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor:</td>
<td>Slight solvent</td>
</tr>
<tr>
<td>Vapor Density:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>1.12-1.16 at 60 °F (16 ºC)</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility Water:</td>
<td>Complete</td>
</tr>
<tr>
<td>Percent Volatile:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Appearance:</td>
<td>Clear, colorless</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>&gt;200 °F (&gt;93.3 ºC)</td>
</tr>
<tr>
<td>pH:</td>
<td>&lt;2</td>
</tr>
<tr>
<td>VOC:</td>
<td>14%</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Percent Solids:</td>
<td>38-41</td>
</tr>
</tbody>
</table>

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability:
Stable under normal conditions.

Conditions to Avoid:
Keep away from heat, ignition sources and incompatible materials.

Incompatibility:
This product may react with strong oxidizing agents.

Decomposition Products:
Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. May liberate hydrogen fluoride.

Hazardous Polymerization:
Will not occur.

*** Section 11 - Toxicological Information ***

Acute Toxicity:
A: General Product Information
No information available for the product.
B: Component Analysis - LD50/LC50

**Phosphoric acid (7664-38-2)**
Inhalation LC50 Rat: >850 mg/m3/1H; Oral LD50 Rat: 1530 mg/kg; Dermal LD50 Rabbit: 2730 mg/kg

**Ethylene glycol n-butyl ether (111-76-2)**
Inhalation LC50 Rat: 2.21 mg/L/4H; Inhalation LC50 Rat: 450 ppm/4H; Oral LD50 Rat: 470 mg/kg; Dermal LD50 Rat: 2270 mg/kg; Dermal LD50 Rabbit: 220 mg/kg

**Dihydrogen potassium phosphate (7778-77-0)**
Dermal LD50 Rabbit: >4640 mg/kg

**Alkylphenol ethoxylates (Proprietary)**
Oral LD50 Rat: 4190 mg/kg

**Carcinogenicity:**

**A: General Product Information**
No information available for the product.

**B: Component Carcinogenicity**

**Ethylene glycol n-butyl ether (111-76-2)**
ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans

**Chronic Toxicity**
Chronic fluoride exposure can produce fluorosis, a condition characterized by nausea, vomiting, loss of appetite, diarrhea or constipation, anemia, weakness, and joint stiffness. Ethylene glycol n-butyl ether has caused red blood cell hemolysis in laboratory animals and secondary injury to the kidney and liver.

**Epidemiology:**
No information available for the product.

**Neurotoxicity:**
No information available for the product.

**Mutagenicity:**
No information available for the product.

**Teratogenicity:**
No information available for the product.

**Other Toxicological Information:**
None available.

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*** Section 12 - Ecological Information ***

**Ecotoxicity:**

**A: General Product Information**
No data available for this product.

**B: Component Analysis - Ecotoxicity - Aquatic Toxicity**

**Phosphoric acid (7664-38-2)**

<table>
<thead>
<tr>
<th>Test &amp; Species</th>
<th>Conditions</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>96 Hr LC50 mosquito fish</td>
<td></td>
<td>138 mg/L</td>
</tr>
</tbody>
</table>

**Ethylene glycol n-butyl ether (111-76-2)**

<table>
<thead>
<tr>
<th>Test &amp; Species</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>96 Hr LC50 bluegill</td>
<td>1490 mg/L</td>
</tr>
<tr>
<td>24 Hr LC50 goldfish</td>
<td>1650 mg/L</td>
</tr>
<tr>
<td>24 Hr LC50 water flea</td>
<td>1720 mg/L</td>
</tr>
</tbody>
</table>
Environmental Fate:
No data is available concerning the environmental fate, biodegradation or bioconcentration for this product.

*** Section 13 - Disposal Considerations ***

US EPA Waste Numbers & Descriptions:
A: General Product Information
   This product, if discarded directly, would be a characteristic RCRA corrosive waste (D002).
B: Component Waste Numbers
   No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions:
Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

*** Section 14 - Transportation Information ***

US DOT Information
Shipping Name: Please refer to the container label for transportation information.
*** Section 15 - Regulatory Information ***

US Federal Regulations
A: General Product Information
This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

B: Component Analysis
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

**Phosphoric acid (7664-38-2)**

- CERCLA: 5000 lb final RQ; 2270 kg final RQ

**Ethylene glycol n-butyl ether (111-76-2)**

- SARA 313: 1.0 % de minimis concentration (applies to R-(OCH2CH2)n-OR', where n = 1, 2, or 3, R=alkyl C7 or less, or R = phenyl or alkyl substituted phenyl, R' = H or alkyl C7 or less, or OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate, Chemical Category N230) (related to Glycol ethers)

State Regulations
A: General Product Information
No additional information available.

B: Component Analysis - State
The following components appear on one or more of the following state hazardous substances lists:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>CA</th>
<th>FL</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
</tr>
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<tbody>
<tr>
<td>Phosphoric acid</td>
<td>7664-38-2</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
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<td>Ethylene glycol n-butyl ether</td>
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<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</table>

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):
**WARNING!** This product contains a chemical known to the state of California to cause cancer.
**WARNING!** This product contains a chemical known to the state of California to cause reproductive/developmental effects.

Other Regulations
A: General Product Information
All components are on the U.S. EPA TSCA Inventory List.
B: Component Analysis - Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>TSCA</th>
<th>DSL</th>
<th>EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>7664-38-2</td>
<td>Yes</td>
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<td>Yes</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Alkylphenol ethoxylates</td>
<td>Proprietary</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Minimum Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>7664-38-2</td>
<td>1 %</td>
</tr>
<tr>
<td>Ethylene glycol n-butyl ether</td>
<td>111-76-2</td>
<td>1 %</td>
</tr>
<tr>
<td>Alkylphenol ethoxylates</td>
<td>Proprietary</td>
<td>1 %</td>
</tr>
</tbody>
</table>

*** Section 16 - Other Information ***

NFPA Ratings: Health: 3 Fire: 2 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe
HMIS Ratings: Health: 3* Fire: 2 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act

The information presented herein is believed to be factual as it has been derived from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which Henkel Surface Technologies bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Contact: Product Safety and Regulatory Affairs
Contact Phone: (248) 583-9300

This is the end of MSDS # 234449