Material Safety Data Sheet

1. Product Identification

Product Name: Calkine Alkaline Phosphatase Kit (DEA) (pNPP kinetic method)
Catalog Number: ALP 130

2. Composition / Information on Hazardous Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>% W/V</th>
<th>Exposure Limits in Air</th>
<th>TLV</th>
<th>STEL</th>
<th>PEL</th>
<th>STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reagent 1:</td>
<td>Buffer Reagent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Azide</td>
<td>26628-22-8</td>
<td>0.1</td>
<td>N / A</td>
<td>0.29</td>
<td>N / A</td>
<td></td>
<td>N / A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N / A</td>
<td></td>
<td>N / A</td>
<td>NIOSH 0.3 mg/m³ C (skin)</td>
</tr>
<tr>
<td>Reagent 2:</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reagent 3:</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reagent 4:</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Reagent 5:</td>
<td>N/A</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

3. Hazard Identification

Primary Routes of Entry:
Inhalations, ingestion, skin and / or eye contact.

Inhalation:
Inhalation of Vapours, mists, or sprays of these components may irritate the nose, throat, and lungs. Symptoms are generally alleviated upon breathing fresh air.

Ingestion:
Though not a likely route of occupational exposure, ingestion of this product, especially in large quantities, May cause gastric distress. Symptoms may include nausea, vomiting, or diarrhea.

Skin Contact:
If the liquid or Vapours of this product come in contact with the skin, mild irritation may develop. Sodium Azide may enter body through skin.
4. First Aid Measures

**Inhalation:**
If breathing becomes difficult, remove victim to fresh air. Seek medical attention immediately.

**Ingestion:**
Get medical attention if there has been ingestion of this product.

**Skin Contact:**
Avoid skin contact. If skin contact occurs, remove contaminated clothing and wash exposed skin with water for at least 15 minutes. Get medical attention immediately.

**Eye Contact:**
Immediately flush eye(s) with large volume of water for at least 15 minutes, occasionally lifting the lower lids. Get medical attention immediately.

5. Fire Fighting Measures

**Flash Point (Method used):** N/A  
**Flammable Limits – LEL:** N/A  
**UEL:** N/A

**Extinguishing Media:**
Use fire-extinguishing media appropriate for site conditions.

**Special Fire Procedures:**
Structural firefighting gear and self-contained breathing apparatus will provide adequate protection if this product is in a fire area.

**Unusual Fire and Explosion Hazards:**
Sodium azide can react with copper, lead, brass, or solder in plumbing to form explosive compound of lead azide and copper azide. Sodium azide can react with acids to form explosive hydrogen azide.

6. Accidental Release Measures

**Steps to be taken in case material is Released or Spilled:**
PPE should be level D: lab gloves, chemical resistant apron, boots and splash goggles. Use an absorbent material to contain / pick up the spilled solution. Place all spill residues into a suitable container, seal, label and hold for disposal.

7. Handling and Storage

Refer to packet insert for additional information on handling and storage procedures.

8. Exposure Controls and Personal Protection

**Ventilation Data:**
A system of local and / or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.
Respiratory Protection:
Respiratory protection is not required under normal use of this product. If respiratory protection is needed, follow OSHA respirator regulations (29CFR1910.134) and, if necessary, wear a NIOSH approved respirator. Select respirator based on its suitability to provide worker protection for given working conditions, level of airborne concentration, and presence of sufficient oxygen.

Protective Gloves:
Wear appropriate protective gloves to prevent skin contact. Replace torn or punctured gloves promptly.

Other Protective Equipment:
Wear appropriate eye protection to prevent eye contact. Wear appropriate body protection to prevent skin contact.

Other Engineering Controls:
Eye wash stations and deluge showers.

Work Practices:
Good laboratory technique should be used when handling this product. Observe appropriate chemical hygiene. Avoid contact with eyes or skin. Do not place in mouth.

Hygienic Practices:
Do not eat, drink, or smoke while working with product. Upon completion of work activities involving this product, wash hands thoroughly with soap and water.

9. Physical and Chemical Properties
For All Components Unless Otherwise Indicated

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Vapour density (air = 1)</td>
<td>N/A</td>
</tr>
<tr>
<td>Specific Gravity (water = 1)</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Vapour Pressure, mm Hg @ 20°C</td>
<td>N/A</td>
</tr>
<tr>
<td>Evaporation rate (nBuAc = 1)</td>
<td>N/A</td>
</tr>
<tr>
<td>Freezing / Melting Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>N/A</td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Odour and Appearance Information
Reagent 1: Clear, Colourless liquid
Reagent 2: Pale yellow colour Tablet

10. Stability and Reactivity
Incompatibility (Materials to Avoid):
Strong bases, strong acids, and water reactive materials.

Hazardous Decomposition Products:
Thermal decomposition may produce carbon monoxide and carbon dioxide.

Will Hazardous Polymerization Occur?
Hazardous polymerization will not occur.

Conditions to Avoid / Polymerization:
Is the Product Stable?
Yes, under normal handling and storage conditions.

Conditions to Avoid/stability
Stable Solution. Avoid acidification of solution, which may generate hydrogen cyanide gas.

11. Toxicological Information
Toxicity Data:
Sodium Azide (Undiluted): LD50 (rat and mouse, Oral)=27 mg/kg; LD50 (rabbit, skin)=20 mg/kg.

Reproductive effects:
N/A.
Target organ Effects:
Eyes (redness), Skin (redness), central nervous systems (nausea/vomiting), cardiovascular systems (fall in blood pressure, change in heart rate), digestive (nausea/vomiting, diarrhea).

Carcinogenicity: No

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS #</th>
<th>% W/V</th>
<th>NTP Carcinogen Known</th>
<th>Anticipated</th>
<th>IARC</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A.</td>
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</tbody>
</table>

12. Ecological Information

Environmental Fate / Stability:
N/A

Effect of Material on plants or animals:
N/A

Effect of Chemical on Aquatic Life:
N/A

13. Disposal Considerations

EPA Waste Number and Proper Waste Disposal Method:
Please consult local, state and federal regulations for additional guidance on disposal.

14. Transportation Information

Is this Material Hazardous? Not regulated under transportation regulations.

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>Hazard Class Number</th>
</tr>
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<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
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</table>

<table>
<thead>
<tr>
<th>Packing Group</th>
<th>UN Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

15. Regulatory Information

NA.

16. Other Information

NA => NOT APPLICABLE or NO INFORMATION