SECTION 1. IDENTIFICATION OF PRODUCT AND COMPANY:

Product Name: AL Buffer

Manufacturer or Supplier Details:
Company Name: Omega Bio-tek, Inc.
Address: 400 Pinnacle Way, Suite 450
Norcross, GA 30071
USA
Telephone: 1-800-832-8896
Email: info@omegabiotek.com
Emergency Telephone: CHEMTREC
USA & Canada: 1-800-424-9300
Outside USA & Canada: 1-703-527-3887

Recommended Use of the Chemical and Restrictions on Use:
Recommended Use: For research use only.

SECTION 2. HAZARDS IDENTIFICATION

Hazard Classification:
Health Hazards:
Acute toxicity (oral) Category 4
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A
Specific target organ toxicity - single exposure Category 3

GHS Label Element:
Hazard Symbol:

Signal Word: Warning

Hazard Statements:
H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious skin irritation.
H332 - Harmful if inhaled.
Precautionary Statements:

P261 - Avoid breathing dust/fumes/gas/mist/vapors/spray.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P311 - Call a poison control center or doctor/physician.

Potential Health Effects:

Aggravated Medical Conditions: May cause nervous system disturbances.
Symptoms of Overexposure:
Inhalation: Toxic if inhaled. May cause respiratory tract irritation.
Skin: Harmful if absorbed through skin. May cause skin irritation.
Eyes: Causes eye irritation.
Ingestion: Harmful if swallowed.

Carcinogenicity:

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

OSHA No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS:

Substance or Mixture: Mixture of the substances listed below with non-hazardous additions.

Synonyms/Common Names: Guanidinium chloride, Guanidinium monohydrochloride, Guanidinium hydrochloride

<table>
<thead>
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<th>Chemical Name</th>
<th>CAS No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guanidine Hydrochloride</td>
<td>50-01-1</td>
<td>50-100%</td>
</tr>
</tbody>
</table>
Safety Data Sheet

SECTION 4. FIRST AID MEASURES:

General Advice: Exit to a safe area. Consult a physician. Seek medical attention.

If Inhaled: Move to fresh air. If not breathing, give artificial respiration. Seek medical attention.

In Case of Skin Contact: Exit to safe area. Wash thoroughly with soap and water. Seek medical attention.

In Case of Eye Contact: Flush eyes with clean water for a minimum of 15 minutes, keeping eyes open. Seek medical attention.

If Swallowed: Rinse mouth with water. Never give anything by mouth to an unconscious person. Seek medical attention.

Most Important Symptoms and Effects, Acute and Delayed: Irritating to eyes, respiratory system and skin. Narcotic effect.

Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically. Symptoms may be delayed.

SECTION 5. FIREFIGHTING MEASURES:

Conditions of Flammability: Not flammable or combustible.

Suitable Extinguishing Media: Dry powder, CO₂, water spray or regular foam.

Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary.

Hazardous Combustion Products: Carbon oxides (CO, CO₂), nitrogen oxides (NOx), hydrogen chloride gas

Further Information: Prevent firefighting water from entering surface water or groundwater.
## SECTION 6. ACCIDENTAL RELEASE MEASURES:

**Personal Precautions:**
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. See Section 8: Exposure Controls/Personal Protection for more details.

**Environmental Precautions:**
Prevent further leakage if area is safe. Do not let product enter drains. Avoid discharge into the environment.

**Emergency Procedures:**
Evacuate personnel to safe areas and follow emergency response protocols.

**Methods and Materials for Containment and Cleaning Up:**
Use inert absorbent material to soak up spill. Dispose of hazardous waste. Do not flush with water.

## SECTION 7. HANDLING AND STORAGE:

**Precautions for Safe Handling:**
Handle in accordance with good chemical hygiene and safety practices. Protect from moisture. Avoid contact with eyes, skin and clothing. Avoid inhalation of vapors or mist.

**Conditions for Safe Storage:**
Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture.

**Incompatible Products:**
Strong oxidizing agents

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

**Appropriate Engineering Controls:**
Adequate ventilation and access to eye washing stations are required.

**Recommendations for Personal Protective Measures:**

- **Hand Protection:**
  Use gloves when handling this product. Inspect gloves prior to use for any visible damage. Use proper glove removal technique to prevent contact with skin. Dispose of gloves in accordance with applicable laws. Wash and dry hands after use.

- **Eye Protection:**
  Use a face shield and/or safety goggles when handling this product. Use eyewear that has been approved by NIOSH.

- **Skin and Body Protection:**
  Wear appropriate laboratory attire when handling this product, such as gloves, long pants, closed-toe shoes and a laboratory coat.
Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be used.

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product. Do not eat, drink or smoke when handling this product.

Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc:

Components with Workplace Control Parameters:

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS No.</th>
<th>Value</th>
<th>Control Parameters</th>
<th>Basis</th>
</tr>
</thead>
</table>

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:
- Form: Liquid
- Color: Colorless
- Odor: No data available
- Odor Threshold: No data available
- pH: 4.0-6.0
- Melting Point/Freezing Point: No data available
- Initial Boiling Point/Boiling Range: No data available
- Flash Point: No data available
- Evaporation Rate: No data available
- Flammability (Solid, Gas): No data available

Upper/Lower Limits on Flammability and Explosive Limits:
- Flammability Limit (Upper): No data available
- Flammability Limit (Lower): No data available
- Explosive Limit (Upper): No data available
- Explosive Limit (Lower): No data available
- Vapor Pressure: No data available
- Vapor Density: No data available
Relative Density: No data available
Solubility:
  Solubility in Water: No data available
  Solubility (Other): No data available
Partition Coefficient (n-octanol/water): No data available
Auto-Ignition Temperature: No data available
 Decomposition Temperature: No data available
Viscosity: No data available

SECTION 10. STABILITY AND REACTIVITY:

Reactivity: No dangerous reaction known under conditions of normal use.
Chemical Stability: Stable under recommended storage conditions.
Possibility of Hazardous Reactions: Hazardous polymerization does not occur.
Conditions to Avoid: Contact with incompatible materials, excessive heat.
Materials to Avoid: Strong oxidizing agents, strong acids, inorganic salts, chlorinated compounds
Hazardous Decomposition Products: Carbon oxides, nitrogen oxides (NOx), hydrogen chloride gas

SECTION 11. TOXICOLOGICAL INFORMATION:

Information on Likely Routes of Exposure:
  Inhalation: Harmful if inhaled. May cause respiratory tract irritation.
  Ingestion: Harmful if swallowed.
  Skin: Causes skin irritation.
  Eyes: Causes serious eye irritation.

Information on Toxicological Effects:
  Acute Toxicity:
    Oral LD50: 1,900 mg/kg (Rat)
    Inhalation LC50: No data available
    Dermal LD50: 2,000 mg/kg (Rabbit)
    Other Information: No data available
### Safety Data Sheet

**Trade Name:** AL Buffer  
**Revision Date:** 4/28/2016

<table>
<thead>
<tr>
<th>Skin Corrosion/Irritation:</th>
<th>Causes skin irritation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious Eye Damage/Irritation:</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Respiratory or Skin Sensitization:</td>
<td>Components of this product may be absorbed into the body through the skin. Irritating to skin and mucus membranes.</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity:</td>
<td>No mutagenic components identified.</td>
</tr>
</tbody>
</table>

**Carcinogenicity:**

| IARC: | No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| ACGIH: | No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH. |
| NTP: | No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP. |
| OSHA: | No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA. |

**Reproductive Toxicity:**

| No component toxic to reproduction. |

**Teratogenicity:**

| No data available. |

**Specific Target Organ Toxicity - Single Exposure:**

| Respiratory tract irritation. |

**Specific Target Organ Toxicity - Repeated Exposures:**

| No data available. |

**Aspiration Hazard:**

| No data available. |

**Signs and Symptoms of Exposure:**

| Irritating to eyes, respiratory system and skin. Narcotic effect. |

**Synergistic Effects:**

| No data available. |

**Additional Information:**

| None known. |

### SECTION 12. ECOLOGICAL INFORMATION:

| Toxicity: | No data available. |
| Persistence and Degradability: | No data available. |
| Bioaccumulative Potential: | No data available. |
| Mobility in Soil: | Product is water soluble and may spread in water systems. |
| PBT and vPvB Assessment: | No data available. |
| Other Adverse Effects: | The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
SECTION 13. DISPOSAL CONSIDERATIONS:

Product: Disposal should be in accordance with applicable regional, national and local laws and regulations.

S29 - Do not empty into drains.
S57 - Use appropriate container to avoid environmental contamination.

Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Contaminated Packaging: Disposal must be made according to official regulations.

To minimize exposure, please refer to Section 8: Exposure Control/Personal Protection of this SDS.

SECTION 14. TRANSPORT INFORMATION:

DOT: Not regulated.
IMDG: Not regulated.
IATA: Not regulated.

SECTION 15. REGULATORY INFORMATION:

US Federal Regulations:

OSHA Hazards:

Aggravated Medical Conditions: May cause nervous system disturbances.

Symptoms of Overexposure:

Inhalation: Toxic if inhaled. May cause respiratory tract irritation.
Skin: Harmful if absorbed through skin. May cause skin irritation.
Eyes: Causes eye irritation.
Ingestion: Harmful if swallowed.

SARA 302 Components: None present or none present in regulated quantities.
SARA 313 Components: None present or none present in regulated quantities.
SARA 311/312 Hazards: Acute health hazard, chronic health hazard
US State Regulations:
- California Prop. 65: No ingredient regulated by CA Prop 65 present.
- New Jersey & Community RTK: No ingredient regulated by NJ Right to Know Act present.
- Massachusetts RTK: No ingredient regulated by MA Right to Know Act present.
- Pennsylvania RTK: No ingredient regulated by PA Right to Know Act present.
- Rhode Island RTK: No ingredient regulated by RI Right to Know Act present.

SECTION 16. OTHER INFORMATION:

Issue Date: 8/19/2015
Revision Date: 4/28/2016
Version: 5.0
Further Information: No data available.
Disclaimer: The above information is believed to be correct but does not claim to be all inclusive. This document shall be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Omega Bio-tek, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.
SECTION 1. IDENTIFICATION OF PRODUCT AND COMPANY:

Product Name: Elution Buffer

Manufacturer or Supplier Details:
Company Name: Omega Bio-tek, Inc.
Address: 400 Pinnacle Way, Suite 450
         Norcross, GA 30071
         USA
Telephone: 1-800-832-8896
Email: info@omegabiotek.com
Emergency Telephone: CHEMTREC
         USA & Canada: 1-800-424-9300
         Outside USA & Canada: 1-703-527-3887

Recommended Use of the Chemical and Restrictions on Use:
Recommended Use: For research use only.

SECTION 2. HAZARDS IDENTIFICATION

Hazard Classification:
Health Hazards: No known OSHA hazards.
Not a dangerous substance according to GHS.

GHS Label Element:
Hazard Symbol: N/A

Hazard Statements: Not a hazardous substance or mixture.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS:

Substance or Mixture: Mixture of non-hazardous substances.

Synonyms/Common Names: N/A
SECTION 4. FIRST AID MEASURES:

General Advice: Wear protective gloves/protective clothing/eye protection/face protection.

If Inhaled: If not breathing, give artificial respiration.

In Case of Skin Contact: Wash with soap and water.

In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing.

If Swallowed: N/A

Most Important Symptoms and Effects, Acute and Delayed: N/A

Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically. Symptoms may be delayed.

SECTION 5. FIREFIGHTING MEASURES:

Conditions of Flammability: Not flammable or combustible.

Suitable Extinguishing Media: Dry powder, CO₂, water spray or regular foam.

Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary.

Hazardous Combustion Products: N/A

Further Information: Prevent firefighting water from entering surface water or groundwater.
SECTION 6. ACCIDENTAL RELEASE MEASURES:

Personal Precautions: Avoid inhalation of vapors or mist. See Section 8: Exposure Controls/Personal Protection for more information.

Environmental Precautions: N/A

Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols.

Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill.

SECTION 7. HANDLING AND STORAGE:

Precautions for Safe Handling: Handle in accordance with good chemical hygiene and safety practices. Protect from moisture. Avoid contact with eyes, skin and clothing. Avoid inhalation of vapors or mist.

Conditions for Safe Storage: Keep container tightly closed in a dry, well-ventilated place.

Imcompatible Products: N/A

SECTION 8. EXPOSURE CONTROLS/PERSOAL PROTECTION:

Appropriate Engineering Controls: Adequate ventilation and access to eye washing stations are required.

Recommendations for Personal Protective Measures:

Hand Protection: Use gloves when handling this product. Inspect gloves prior to use for any visible damage. Use proper glove removal technique to prevent contact with skin. Dispose of gloves in accordance with applicable laws. Wash and dry hands after use.

Eye Protection: Use a face shield and/or safety goggles when handling this product. Use eyewear that has been approved by NIOSH.

Skin and Body Protection: Wear appropriate laboratory attire when handling this product, such as gloves, long pants, closed-toe shoes and a laboratory coat.
Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be used.

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product. Do not eat, drink or smoke when handling this product.

Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc: N/A

Components with Workplace Control Parameters: N/A

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:
- Form: Liquid
- Color: Colorless

Odor: No data available

Odor Threshold: No data available

pH: 8.0-9.0

Melting Point/Freezing Point: No data available

Initial Boiling Point/Boiling Range: No data available

Flash Point: No data available

Evaporation Rate: No data available

Flammability (Solid, Gas): No data available

Upper/Lower Limits on Flammability and Explosive Limits:
- Flammability Limit (Upper): No data available
- Flammability Limit (Lower): No data available
- Explosive Limit (Upper): No data available
- Explosive Limit (Lower): No data available

Vapor Pressure: No data available

Vapor Density: No data available

Relative Density: No data available.
### Solubility:
- **Solubility in Water:** No data available
- **Solubility (Other):** No data available
- **Partition Coefficient (n-octanol/water):** No data available
- **Auto-Ignition Temperature:** No data available
- **Decomposition Temperature:** No data available
- **Viscosity:** No data available

### SECTION 10. STABILITY AND REACTIVITY:

**Reactivity:**
No dangerous reactions known under conditions of normal use.

**Chemical Stability:**
Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:**
N/A

**Conditions to Avoid:**
N/A

**Materials to Avoid:**
N/A

**Hazardous Decomposition Products:**
N/A

### SECTION 11. TOXICOLOGICAL INFORMATION:

**Information on Likely Routes of Exposure:**
- **Inhalation:** No data available
- **Ingestion:** No data available
- **Skin:** No data available
- **Eyes:** No data available

**Information on Toxicological Effects:**
- **Acute Toxicity:**
  - **Oral LD50:** No data available
  - **Inhalation LC50:** No data available
  - **Dermal LD50:** No data available
  - **Other Information:** No data available
- **Skin Corrosion/Irritation:** No data available
- **Serious Eye Damage/Irritation:** No data available
- **Respiratory or Skin Sensitization:** No data available
Germ Cell Mutagenicity: No data available

Carcinogenicity:
- IARC: No component of this product that is present at 0.1\% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product that is present at 0.1\% is identified as probable, possible or confirmed human carcinogen by ACGIH.
- NTP: No component of this product that is present at 0.1\% is identified as probable, possible or confirmed human carcinogen by NTP.
- OSHA: No component of this product that is present at 0.1\% is identified as probable, possible or confirmed human carcinogen by OSHA.

Reproductive Toxicity: No data available
Teratogenicity: No data available
Specific Target Organ Toxicity - Single Exposure: No data available
Specific Target Organ Toxicity - Repeated Exposures: No data available
Aspiration Hazard: No data available
Signs and Symptoms of Exposure: No data available
Synergistic Effects: No data available
Additional Information: None known.

SECTION 12. ECOLOGICAL INFORMATION:

Toxicity: No data available.
Persistence and Degradability: No data available.
Bioaccumulative Potential: No data available.
Mobility in Soil: No data available.
PBT and vPvB Assessment: No data available.
Other Adverse Effects: No data available.
SECTION 13. DISPOSAL CONSIDERATIONS:

Product: Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Contaminated Packaging: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION:

DOT: Not regulated.
IMDG: Not regulated.
IATA: Not regulated.

SECTION 15. REGULATORY INFORMATION:

US Federal Regulations:
SARA 302 Components: None present or none present in regulated quantities.
SARA 313 Components: None present or none present in regulated quantities.
SARA 311/312 Hazards: No data available.

US State Regulations:
California Prop. 65: No ingredient regulated by CA Prop 65 present.
Massachusetts RTK: No ingredient regulated by MS Right to Know Act present.
New Jersey & Community RTK: Water CAS No. 7732-18-5
Pennsylvania RTK: Water CAS No. 7732-18-5
Rhode Island RTK: No ingredient regulated by RI Right to Know Act present.
SECTION 16. OTHER INFORMATION:

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<th>9/10/2015</th>
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<td>4/29/2016</td>
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<tr>
<td>Version:</td>
<td>3.0</td>
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<tr>
<td>Further Information:</td>
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<tr>
<td>Disclaimer:</td>
<td>The above information is believed to be correct but does not claim to be all inclusive. This document shall be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Omega Bio-tek, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.</td>
</tr>
</tbody>
</table>
SECTION 1. IDENTIFICATION OF PRODUCT AND COMPANY:

Product Name: HDQ Binding Buffer

Manufacturer or Supplier Details:
- Company Name: Omega Bio-tek, Inc.
- Address: 400 Pinnacle Way, Suite 450
  Norcross, GA 30071
  USA
- Telephone: 1-800-832-8896
- Email: info@omegabiotek.com
- Emergency Telephone: CHEMTREC
  USA & Canada: 1-800-424-9300
  Outside USA & Canada: 1-703-527-3887

Recommended Use of the Chemical and Restrictions on Use:
- Recommended Use: For research use only.

SECTION 2. HAZARDS IDENTIFICATION

Hazard Classification:
- OSHA Hazards: Target organ effect
  - Target Organs: Thyroid
  - Health Hazards: Acute toxicity, oral
  - Physical Hazards: Oxidizing solids

GHS Label Element:
- Hazard Symbol:
- Signal Word: Danger

Hazard Statements:
- H271- May cause fire or explosion; strong oxidizer
- H302- Harmful if swallowed
- H319- Causes serious eye irritation
- H373- May cause damage to thyroid through prolonged or repeated exposure
Precautionary Statements:
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 - Keep/Store away from clothing/combustible materials.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P306+P360 - IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337+P313- If eye irritation persists get medical advice/attention.

Potential Acute Health Effects:
Aggravated Medical Conditions: Can aggrerate pre-existing respiratory problems
Symptoms of Overexposure:
Inhalation: May cause respiratory tract irritation; coughing and shortness of breath; high concentrations may cause more significant respiratory effects
Skin: Irritating to mucus membranes and skin
Eyes: Irritation, redness, tearing
Ingestion: May cause gastrointestinal irritation; larger doses may cause nausea and vomiting

Potential Chronic Health Effects: May cause hypothyroidism

Carcinogenicity:
IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.
OSHA No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.
NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS:

Substance or Mixture: Mixture of the substances listed below with non-hazardous additions.

Synonyms/Common Names: Perchloric Acid

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Concentration (%)</th>
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</thead>
<tbody>
<tr>
<td>Sodium perchlorate NaClO₄</td>
<td>7601-89-0</td>
<td>25-50%</td>
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</tbody>
</table>

SECTION 4. FIRST AID MEASURES:

General Advice: Exit to a safe area. Consult a physician. Seek medical attention.

If Inhaled: Move to fresh air. If not breathing, give artificial respiration. Seek medical attention.

In Case of Skin Contact: Exit to safe area. Wash thoroughly with soap and water. Seek medical attention.

In Case of Eye Contact: Flush eyes with clean water for a minimum of 15 minutes keeping eyes open. Seek medical attention. Continue rinsing eyes during transport to hospital.

If Swallowed: Give water. Induce vomiting. Keep airway clear. Never give anything by mouth to an unconscious person. Seek medical attention.

Most Important Symptoms and Effects, Acute and Delayed:

Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically. Symptoms may be delayed.
SECTION 5. FIREFIGHTING MEASURES:

Conditions of Flammability: Not flammable or combustible.

Suitable Extinguishing Media: Water spray. Other extinguishing materials are ineffective.

Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary.

Hazardous Combustion Products: Carbon oxides

Unusual Fire and Explosion Hazards: Sodium perchlorate is an oxidizing agent and may cause rapid combustion or explosions if mixed with fuels, including organic materials or powdered metals.

SECTION 6. ACCIDENTAL RELEASE MEASURES:

Personal Precautions: Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. See Section 8: Exposure Controls/Personal Protection for more details.

Environmental Precautions: Prevent further leakage if area is safe. Do not let product enter drains. Avoid discharge into the environment.

Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols.

Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill. Dispose of hazardous waste. Clean up contaminated floor surface with water.
SECTION 7. HANDLING AND STORAGE:

Precautions for Safe Handling: Handle in accordance with good chemical hygiene and safety practices. Protect from moisture and heat. Keep away from incompatible substances. Avoid contact with eyes, skin and clothing. Avoid inhalation of vapors or mist.

Conditions for Safe Storage: Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture.

Imcompatible Products: Strong reducing agents, organic materials, especially fuels, oil and greases.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Appropriate Engineering Controls: Adequate ventilation and access to eye washing stations are required.

Recommendations for Personal Protective Measures:

Hand Protection: Use gloves when handling this product. Inspect gloves prior to use for any visible damage. Use proper glove removal technique to prevent contact with skin. Dispose of gloves in accordance with applicable laws. Wash and dry hands after use.

Eye Protection: Use a face shield and/or safety goggles when handling this product. Use eyewear that has been approved by NIOSH.

Skin and Body Protection: Wear appropriate laboratory attire when handling this product, such as gloves, long pants, closed-toe shoes and a laboratory coat.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment. Use respirators that have been approved by NIOSH.

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product.

Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc:

N/A
Components with Workplace Control Parameters:

<table>
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<tr>
<th>Components</th>
<th>CAS No.</th>
<th>Value</th>
<th>Control Parameters</th>
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<td>OSHA PEL (Total dust) 15 mg/m³</td>
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<td>OSHA PEL (Respirable fraction) 5 mg/m³</td>
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<td></td>
<td></td>
<td>ACGIH TWA (Respirable fraction) 3 mg/m³</td>
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<td>ACGIH TWA (Inhalable particles) 10 mg/m³</td>
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:
- Form: Liquid
- Color: Colorless
- Odor: No data available
- Odor Threshold: No data available
- pH: 6.0-8.0
- Melting Point/Freezing Point: No data available
- Initial Boiling Point/Boiling Range: No data available
- Flash Point: No data available
- Evaporation Rate: No data available
- Flammability (Solid, Gas): No data available

Upper/Lower Limits on Flammability and Explosive Limits:
- Flammability Limit (Upper): No data available
- Flammability Limit (Lower): No data available
- Explosive Limit (Upper): No data available
- Explosive Limit (Lower): No data available
- Vapor Pressure: No data available
- Vapor Density: No data available
- Relative Density: No data available
Solubility:
   Solubility in Water: No data available
   Solubility (Other): No data available

SECTION 10. STABILITY AND REACTIVITY:

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: No data available

Conditions to Avoid: Heating

Materials to Avoid: Organic materials, strong acids, forms shock-sensitive mixtures with certain other materials, powdered metals, reducing agents, magnesium

Hazardous Decomposition Products: Hazardous decomposition products formed under fire conditions - hydrogen chloride gas, sodium oxides. Other decomposition products - no data available.

SECTION 11. TOXICOLOGICAL INFORMATION:

Information on Likely Routes of Exposure:
   Inhalation: May cause respiratory tract irritation; coughing and shortness of breath; high concentrations may cause more significant respiratory effects
   Ingestion: May cause gastrointestinal irritation; larger doses may cause nausea and vomiting
   Skin: Irritating to mucus membranes and skin
   Eyes: Irritation, redness, tearing

Information on Toxicological Effects:
   Acute Toxicity:
      Oral LD50: 4,200 mg/kg (rat); 1,900 mg/kg (rabbit)
      Inhalation LC50: No data available
      Dermal LD50: No data available
      Other Information: No data available
### Skin Corrosion/Irritation
- No data available

### Serious Eye Damage/Irritation
- No data available

### Respiratory or Skin Sensitization
- No data available

### Germ Cell Mutagenicity
- No data available

### Chronic Effects
- May cause hypothyroidism

#### Carcinogenicity:
- **IARC:** No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- **ACGIH:** No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.
- **NTP:** No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.
- **OSHA:** No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

### Reproductive Toxicity:
- No data available

### Teratogenicity:
- No data available

#### Specific Target Organ Toxicity - Single Exposure:
- No data available

#### Specific Target Organ Toxicity - Repeated Exposures:
- No data available

### Aspiration Hazard:
- No data available

#### Signs and Symptoms of Exposure:
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin. Inhalation of vapors may cause spasm, inflammation and edema of the bronchi; spasm, inflammation and edema of the larynx. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

### Synergistic Effects:
- No data available

### Additional Information:
- No data available
SECTION 12. ECOLOGICAL INFORMATION:

Toxicity:
- Toxicity to Aquatic Life LC50:
  - 490 mg/L for Acute 48-hr (Daphnia magna)
  - 1655 mg/L for Acute 96 hr (Pimepheles promeles)
  - 77.8 mg/L for Chronic 6 day (Ceriodaphniadubia)

Persistence and Degradability: No data available
Bioaccumulative Potential: No data available
Mobility in Soil: No data available
PBT and vPvB Assessment: No data available
Other Adverse Effects: May be harmful to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS:

Product: Disposal should be in accordance with applicable regional, national and local laws and regulations.
- S29 - Do not empty into drains.
- S57 - Use appropriate container to avoid environmental contamination.

Contaminated Packaging: Disposal must be made according to official regulations.
- To minimize exposure, please refer to Section 8: Exposure Control/Personal Protection of this SDS.

SECTION 14. TRANSPORT INFORMATION:

DOT: Not regulated.
IMDG: Not regulated.
IATA: Not regulated.
SECTION 15. REGULATORY INFORMATION:

US Federal Regulations:

OSHA Hazards:
- Target organ effect; thyroid
- Can aggravate pre-existing respiratory problems
- May cause respiratory tract irritation; coughing and shortness of breath; high concentrations may cause more significant respiratory effects.
- Irritating to mucus membranes and skin.
- Irritation, redness, tearing.
- May cause gastrointestinal irritation; larger doses may cause nausea and vomiting.

SARA 302 Components: None present or none present in regulated quantities.
SARA 313 Components: None present or none present in regulated quantities.
SARA 311/312 Hazards: None present or none present in regulated quantities.

US State Regulations:
- No ingredient regulated by CA Prop 65 present.
- Sodium perchlorate 7601-89-0
- Water 7732-18-5
- Sodium perchlorate 7601-89-0
- Water 7732-18-5

SECTION 16. OTHER INFORMATION:

Issue Date: 8/01/2013
Revision Date: 5/19/2016
Version: 5.0
Further Information: No data available.
Disclaimer: The above information is believed to be correct but does not claim to be all inclusive. This document shall be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Omega Bio-tek, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.
SECTION 1. IDENTIFICATION OF PRODUCT AND COMPANY:

Product Name: Mag Bind Particles HDQ

Manufacturer or Supplier Details:
Company Name: Omega Bio-tek, Inc.
Address: 400 Pinnacle Way, Suite 450
Norcross, GA 30071
USA
Telephone: 1-800-832-8896
Email: info@omegabiotek.com
Emergency Telephone: CHEMTREC
USA & Canada: 1-800-424-9300
Outside USA & Canada: 1-703-527-3887

Recommended Use of the Chemical and Restrictions on Use:
Recommended Use: For research use only.

SECTION 2. HAZARDS IDENTIFICATION

Hazard Classification:
Health Hazards: No known OSHA hazards.
Not a dangerous substance according to GHS.

GHS Label Element:
Hazard Symbol: N/A

Hazard Statements: Not a hazardous substance or mixture.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS:

Substance or Mixture: Mixture of non-hazardous substances.

Synonyms/Common Names: N/A

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>26628-22-8</td>
<td>0.05%</td>
</tr>
</tbody>
</table>
SECTION 4. FIRST AID MEASURES:

General Advice: Wear protective gloves/protective clothing/eye protection/face protection.

If Inhaled: If not breathing, give artificial respiration.

In Case of Skin Contact: Wash with soap and water.

In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing.

If Swallowed: N/A

Most Important Symptoms and Effects, Acute and Delayed: N/A

Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically. Symptoms may be delayed.

SECTION 5. FIREFIGHTING MEASURES:

Conditions of Flammability: Not flammable or combustible.

Suitable Extinguishing Media: Dry powder, CO₂, water spray or regular foam.

Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary.

Hazardous Combustion Products: N/A

Further Information: Prevent firefighting water from entering surface water or groundwater.
SECTION 6. ACCIDENTAL RELEASE MEASURES:

Personal Precautions: Avoid inhalation of vapors or mist. See Section 8: Exposure Controls/Personal Protection for more information.

Environmental Precautions: Do not allow undiluted product to enter sewer/surface or ground water.

Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols.

Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill.

SECTION 7. HANDLING AND STORAGE:

Precautions for Safe Handling: Handle in accordance with good chemical hygiene and safety practices. Protect from moisture. Avoid contact with eyes, skin and clothing. Avoid inhalation of vapors or mist.

Conditions for Safe Storage: Store at 2-8°C. Keep container tightly closed in a dry, well-ventilated place.

Imcompatible Products: N/A

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Appropriate Engineering Controls: Adequate ventilation and access to eye washing stations are required.

Recommendations for Personal Protective Measures:

Hand Protection: Use gloves when handling this product. Inspect gloves prior to use for any visible damage. Use proper glove removal technique to prevent contact with skin. Dispose of gloves in accordance with applicable laws. Wash and dry hands after use.

Eye Protection: Use a face shield and/or safety goggles when handling this product. Use eyewear that has been approved by NIOSH.

Skin and Body Protection: Wear appropriate laboratory attire when handling this product, such as gloves, long pants, closed-toe shoes and a laboratory coat.
Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be used.

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product. Do not eat, drink or smoke when handling this product.

Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc:
N/A

Components with Workplace Control Parameters:
N/A

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:
Form: Liquid, with precipitates
Color: Black
Odor: No data available
Odor Threshold: No data available
pH: No data available
Melting Point/Freezing Point: No data available
Initial Boiling Point/Boiling Range: No data available
Flash Point: No data available
Evaporation Rate: No data available
Flammability (Solid, Gas): No data available
Upper/Lower Limits on Flammability and Explosive Limits:
Flammability Limit (Upper): No data available
Flammability Limit (Lower): No data available
Explosive Limit (Upper): No data available
Explosive Limit (Lower): No data available
Vapor Pressure: No data available
Vapor Density: No data available
Relative Density: No data available
Solubility:
- Solubility in Water: No data available
- Solubility (Other): No data available
- Partition Coefficient (n-octanol/water): No data available
- Auto-Ignition Temperature: No data available
- Decomposition Temperature: No data available
- Viscosity: No data available

SECTION 10. STABILITY AND REACTIVITY:

Reactivity: No dangerous reactions known under conditions of normal use.
Chemical Stability: Stable under recommended storage conditions.
Possibility of Hazardous Reactions: N/A
Conditions to Avoid: N/A
Materials to Avoid: N/A
Hazardous Decomposition Products: N/A

SECTION 11. TOXICOLOGICAL INFORMATION:

Information on Likely Routes of Exposure:
- Inhalation: No data available
- Ingestion: No data available
- Skin: No data available
- Eyes: No data available

Information on Toxicological Effects:
- Acute Toxicity:
  - Oral LD50: No data available
  - Inhalation LC50: No data available
  - Dermal LD50: No data available
  - Other Information: No data available
- Skin Corrosion/Irritation: No data available
- Serious Eye Damage/Irritation: No data available
- Respiratory or Skin Sensitization: No data available
Germ Cell Mutagenicity: No data available

Carcinogenicity:
- IARC: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.
- NTP: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.
- OSHA: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

Reproductive Toxicity: No data available
Teratogenicity: No data available
Specific Target Organ Toxicity - Single Exposure: No data available
Specific Target Organ Toxicity - Repeated Exposures: No data available
Aspiration Hazard: No data available
Signs and Symptoms of Exposure: No data available
Synergistic Effects: No data available
Additional Information: None known.

SECTION 12. ECOLOGICAL INFORMATION:

Toxicity: No known significant effects or critical hazards.
Persistence and Degradability: No data available.
Bioaccumulative Potential: No data available.
Mobility in Soil: No data available.
PBT and vPvB Assessment: No data available.
Other Adverse Effects: This product contains an environmentally hazardous substance below the cutoff level. Refer to Section 3 for ingredient information. Do not allow undiluted product to enter sewer/surface or ground water.
SECTION 13. DISPOSAL CONSIDERATIONS:

**Product:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Sodium azide preservative may form explosive compounds in metal drain lines. See NIOSH Bulletin: Explosive Azide Hazard (8/16/76). To avoid possible build-up of azide compounds, flush wastepipes with water after the disposal of undiluted reagent. Sodium azide disposal must be in accordance with appropriate local regulations.

Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

**Contaminated Packaging:**

Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION:

**DOT:**

Not regulated.

**IMDG:**

Not regulated.

**IATA:**

Not regulated.

SECTION 15. REGULATORY INFORMATION:

**US Federal Regulations:**

SARA 302/304:

<table>
<thead>
<tr>
<th>Composition of/Information on Ingredients:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name:</strong> Sodium azide</td>
</tr>
<tr>
<td><strong>SARA 302 TPQ:</strong></td>
</tr>
<tr>
<td><strong>SARA 304 RQ:</strong></td>
</tr>
<tr>
<td><strong>SARA 313 Components:</strong></td>
</tr>
<tr>
<td><strong>SARA 311/312 Hazards:</strong></td>
</tr>
</tbody>
</table>

**US State Regulations:**

- **California Prop. 65:** No ingredient regulated by CA Prop 65 present.
- **Massachusetts RTK:** Sodium azide CAS No. 26628-22-8
New Jersey & Community RTK: Water
Sodium azide

Pennsylvania RTK: Water
Sodium azide

Rhode Island RTK: No ingredient regulated by RI Right to Know Act present.

SECTION 16. OTHER INFORMATION:

Issue Date: 9/10/2015
Revision Date: 9/9/2016
Version: 4.0
Further Information: No data available.
Disclaimer: The above information is believed to be correct but does not claim to be all inclusive. This document shall be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Omega Bio-tek, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.
SECTION 1. IDENTIFICATION OF PRODUCT AND COMPANY:

Product Name: Proteinase K Solution

Manufacturer or Supplier Details:
Company Name: Omega Bio-tek, Inc.
Address: 400 Pinnacle Way, Suite 450
Norcross, GA 30071
USA
Telephone: 1-800-832-8896
Email: info@omegabiotek.com
Emergency Telephone: CHEMTREC
USA & Canada: 1-800-424-9300
Outside USA & Canada: 1-703-527-3887

Recommended Use of the Chemical and Restrictions on Use:
Recommended Use: For research use only.

SECTION 2. HAZARDS IDENTIFICATION

Hazard Classification:
OSHA Hazards: Respiratory sensitizer, irritant.
Health Hazards: Skin irritation
Respiratory sensitization

GHS Label Element:
Hazard Symbol:

Signal Word: Danger
Hazard Statements: H316 - Causes mild skin irritation.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P284 - In case of inadequate ventilation, wear respiratory protection.
Precautionary Statements:  P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P332 + P313 - If skin irritation occurs: Get medical advice/attention.  
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Potential Health Effects:  
Aggravated Medical Conditions:  
Symptoms of Overexposure:  
Inhalation: May cause sensitization by inhalation.  
Skin: May cause mild skin irritation.  
Eyes: May cause eye irritation.  
Ingestion: May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Carcinogenicity:  
IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
ACGIH No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.  
OSHA No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.  
NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

SECTION 3. COMPOSITION OF/INFORMATION ON INGREDIENTS:  
Substance or Mixture: Mixture of the substances listed below with non-hazardous additions.  
Synonyms/Common Names: Endopeptidase K

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proteinase K</td>
<td>39450-01-6</td>
<td>1-5%</td>
</tr>
<tr>
<td>Glycerol</td>
<td>56-81-5</td>
<td>30-60%</td>
</tr>
</tbody>
</table>
SECTION 4. FIRST AID MEASURES:

General Advice: Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

If Inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In Case of Skin Contact: Wash off with soap and plenty of water. Consult a physician.

In Case of Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If Swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most Important Symptoms and Effects, Acute and Delayed:

Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically. Symptoms may be delayed.

SECTION 5. FIREFIGHTING MEASURES:

Conditions of Flammability: Not flammable or combustible.

Suitable Extinguishing Media: Dry powder, CO2, water spray or alcohol-resistant foam.

Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary.

Hazardous Combustion Products: N/A

Further Information:
SECTION 6. ACCIDENTAL RELEASE MEASURES:

Personal Precautions: Use personal protective equipment. Avoid aerosolization. Avoid breathing vapors or mist. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental Precautions: Do not let product enter drains.

Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols.

Methods and Materials for Containment and Cleaning Up: Absorb on sand or vermiculite and place in closed containers for disposal. Pick up and transfer to properly labeled containers. Ensure proper ventilation and cleaning of spill site.

SECTION 7. HANDLING AND STORAGE:

Precautions for Safe Handling: Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

Conditions for Safe Storage: Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: 2-8°C.

Incompatible Products:

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Appropriate Engineering Controls: Adequate ventilation and access to eye washing stations are required.

Recommendations for Personal Protective Measures:

Hand Protection: Use gloves when handling this product. Inspect gloves prior to use for any visible damage. Use proper glove removal technique to prevent contact with skin. Dispose of gloves in accordance with applicable laws. Wash and dry hands after use.

Eye Protection: Use a face shield and/or safety goggles when handling this product. Use eyewear that has been approved by NIOSH.

Skin and Body Protection: Wear appropriate laboratory attire when handling this product, such as gloves, long pants, closed-toe shoes and a laboratory coat.
Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an accepted level (in countries where exposure limits have not been established), an approved respirator must be used.

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product. Do not eat, drink or smoke when handling this product.

Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc:

Components with Workplace Control Parameters:

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS No.</th>
<th>Value</th>
<th>Control Parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>56-81-5</td>
<td>PEL (Total dust)</td>
<td>15 mg/m³</td>
<td>USA. OSHA Table Z-1 Limits for Air Contaminants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL (Respirable fraction)</td>
<td>5 mg/m³</td>
<td>USA. OSHA Table Z-1 Limits for Air Contaminants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>USA. Cal/OSHA Table Z-1 Limits for Air Contaminants</td>
</tr>
</tbody>
</table>

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:
- Form: Liquid
- Color: Slightly yellow

Odor: No data available

Odor Threshold: No data available

pH: No data available

Melting Point/Freezing Point: No data available

Initial Boiling Point/Boiling Range: No data available

Flash Point: No data available

Evaporation Rate: No data available

Flammability (Solid, gas): No data available
### Upper/Lower Limits on Flammability and Explosive Limits:

- **Flammability Limit (Upper):** No data available
- **Flammability Limit (Lower):** No data available
- **Explosive Limit (Upper):** No data available
- **Explosive Limit (Lower):** No data available
- **Vapor Pressure:** No data available
- **Vapor Density:** No data available
- **Relative Density:** No data available
- **Solubility:**
  - Solubility in Water: No data available
  - Solubility (Other): No data available
- **Partition Coefficient (n-octanol/water):** No data available
- **Auto-Ignition Temperature:** No data available
- **Decomposition Temperature:** No data available
- **Viscosity:** No data available

### SECTION 10. STABILITY AND REACTIVITY:

- **Reactivity:** No dangerous reaction known under conditions of normal use.
- **Chemical Stability:** Stable under recommended storage conditions.
- **Possibility of Hazardous Reactions:** N/A
- **Conditions to Avoid:** N/A
- **Materials to Avoid:** N/A
- **Hazardous Decomposition Products:** N/A

### SECTION 11. TOXICOLOGICAL INFORMATION:

**Information on Likely Routes of Exposure:**

- **Inhalation:** May cause sensitization by inhalation.
- **Skin:** May cause mild skin irritation.
- **Eyes:** May cause eye irritation.
- **Ingestion:** May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Information on Toxicological Effects:

<table>
<thead>
<tr>
<th>Acute Toxicity:</th>
<th>Proteinase K</th>
<th>Glycerol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50:</td>
<td>No data available</td>
<td>12,600 mg/kg (rat)</td>
</tr>
<tr>
<td>Inhalation LC50:</td>
<td>No data available</td>
<td>&gt; 570 mg/m³ (rat)</td>
</tr>
<tr>
<td>Dermal LD50:</td>
<td>No data available</td>
<td>&gt; 10,000 mg/kg (rabbit)</td>
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<tr>
<td>Other Information:</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Skin Corrosion/Irritation:</td>
<td>No data available</td>
<td>Mild skin irritation, 24 hrs (rabbit)</td>
</tr>
<tr>
<td>Serious Eye Damage/Irritation:</td>
<td>No data available</td>
<td>Mild eye irritation, 24 hrs (rabbit)</td>
</tr>
<tr>
<td>Respiratory or Skin Sensitization:</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Germ Cell Mutagenicity:</td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>

Carcinogenicity:

| IARC:                   | No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| ACGIH:                  | No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH. |
| NTP:                    | No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP. |
| OSHA:                   | No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA. |

Reproductive Toxicity: No data available
Teratogenicity: No data available
Specific Target Organ Toxicity - Single Exposure: No data available
Specific Target Organ Toxicity - Repeated Exposures: No data available
Aspiration Hazard: No data available
Signs and Symptoms of Exposure: No data available
Synergistic Effects: No data available
Additional Information: No data available

SECTION 12. ECOLOGICAL INFORMATION:

Toxicity: No data available.

Toxicity to Fish LC50:
- > 5,000 mg/L Carassius Auratus (goldfish)
- 44,000 mg/L Pimephales Promelas (fathead minnow)
- 67,500 mg/L Onchorhynchus Mykiss (rainbow trout)
- > 100,100 mg/L Other fish
**Safety Data Sheet**

**Trade Name:** Proteinase K Solution  
**Revision Date:** 5/19/2016

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Information</th>
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</thead>
<tbody>
<tr>
<td>Persistence and Degradability:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Bioaccumulative Potential:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Mobility in Soil:</td>
<td>Product is water soluble and may spread in water systems.</td>
</tr>
<tr>
<td>PBT and vPvB Assessment:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Other Adverse Effects:</td>
<td>The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.</td>
</tr>
</tbody>
</table>

**SECTION 13. DISPOSAL CONSIDERATIONS:**

**Product:** Disposal should be in accordance with applicable regional, national and local laws and regulations.  
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

**Contaminated Packaging:** Disposal must be made according to official regulations.

**SECTION 14. TRANSPORT INFORMATION:**

**DOT:** Not considered dangerous goods.  
**IMDG:** Not considered dangerous goods.  
**IATA:** Not considered dangerous goods.

**SECTION 15. REGULATORY INFORMATION:**

**US Federal Regulations:**  
**OSHA Hazards:** Respiratory sensitizer, irritant.  
**SARA 302 Components:** None present or none present in regulated quantities.  
**SARA 313 Components:** None present or none present in regulated quantities.  
**SARA 311/312 Hazards:** Chronic health hazard

**US State Regulations:**  
**California Prop. 65:** No ingredient regulated by CA Prop 65 present.  
**Massachusetts RTK:** Glycerol 56-81-5
Pennsylvania RTK: Water 7732-18-5
Glycerol 56-81-5
Rhode Island RTK: Water 7732-18-5
Glycerol 56-81-5

SECTION 16. OTHER INFORMATION:

Issue Date: 9/8/2014
Revision Date: 5/19/2016
Version: 3.0
Further Information: No data available.
Disclaimer: The above information is believed to be correct but does not claim to be all inclusive. This document shall be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Omega Bio-tek, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.
SECTION 1. IDENTIFICATION OF PRODUCT AND COMPANY:

Product Name: SPM Wash Buffer

Manufacturer or Supplier Details:
- Company Name: Omega Bio-tek, Inc.
- Address: 400 Pinnacle Way, Suite 450, Norcross, GA 30071, USA
- Telephone: 1-800-832-8896
- Email: info@omegabiotek.com
- Emergency Telephone: CHEMTREC
  USA & Canada: 1-800-424-9300
  Outside USA & Canada: 1-703-527-3887

Recommended Use of the Chemical and Restrictions on Use:
- Recommended Use: For research use only.

SECTION 2. HAZARDS IDENTIFICATION

Hazard Classification:
- Health Hazards: No known OSHA hazards.
  Not a dangerous substance according to GHS.

GHS Label Element:
- Hazard Symbol: N/A

Hazard Statements:
- Not a hazardous substance or mixture.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS:

Substance or Mixture: Mixture of non-hazardous substances.

Synonyms/Common Names: N/A
SECTION 4. FIRST AID MEASURES:

General Advice: Wear protective gloves/protective clothing/eye protection/face protection.

If Inhaled: If not breathing, give artificial respiration.

In Case of Skin Contact: Wash with soap and water.

In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing.

If Swallowed: N/A

Most Important Symptoms and Effects, Acute and Delayed: N/A

Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically. Symptoms may be delayed.

SECTION 5. FIREFIGHTING MEASURES:

Conditions of Flammability: Not flammable or combustible.

Suitable Extinguishing Media: Dry powder, CO₂, water spray or regular foam.

Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary.

Hazardous Combustion Products: N/A

Further Information: Prevent firefighting water from entering surface water or groundwater.
SECTION 6. ACCIDENTAL RELEASE MEASURES:

Personal Precautions: Avoid inhalation of vapors or mist. See Section 8: Exposure Controls/Personal Protection for more information.

Environmental Precautions: N/A

Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols.

Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill.

SECTION 7. HANDLING AND STORAGE:

Precautions for Safe Handling: Handle in accordance with good chemical hygiene and safety practices. Protect from moisture. Avoid contact with eyes, skin and clothing. Avoid inhalation of vapors or mist.

Conditions for Safe Storage: Keep container tightly closed in a dry, well-ventilated place.

Imcompatible Products: N/A

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Appropriate Engineering Controls: Adequate ventilation and access to eye washing stations are required.

Recommendations for Personal Protective Measures:

Hand Protection: Use gloves when handling this product. Inspect gloves prior to use for any visible damage. Use proper glove removal technique to prevent contact with skin. Dispose of gloves in accordance with applicable laws. Wash and dry hands after use.

Eye Protection: Use a face shield and/or safety goggles when handling this product. Use eyewear that has been approved by NIOSH.

Skin and Body Protection: Wear appropriate laboratory attire when handling this product, such as gloves, long pants, closed-toe shoes and a laboratory coat.
### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES:

**Appearance:**
- **Form:** Liquid
- **Color:** Colorless
- **Odor:** No data available
- **Odor Threshold:** No data available
- **pH:** 5.0-7.0
- **Melting Point/Freezing Point:** No data available
- **Initial Boiling Point/Boiling Range:** No data available
- **Flash Point:** No data available
- **Evaporation Rate:** No data available
- **Flammability (Solid, Gas):** No data available

**Upper/Lower Limits on Flammability and Explosive Limits:**
- **Flammability Limit (Upper):** No data available
- **Flammability Limit (Lower):** No data available
- **Explosive Limit (Upper):** No data available
- **Explosive Limit (Lower):** No data available
- **Vapor Pressure:** No data available
- **Vapor Density:** No data available
- **Relative Density:** No data available.
### SECTION 10. STABILITY AND REACTIVITY:

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<tr>
<td>Reactivity</td>
<td>No dangerous reactions known under conditions of normal use.</td>
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<tr>
<td>Chemical Stability</td>
<td>Stable under recommended storage conditions.</td>
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<tr>
<td>Possibility of Hazardous Reactions</td>
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<td>Conditions to Avoid</td>
<td>N/A</td>
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<td>Materials to Avoid</td>
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<td>Hazardous Decomposition Products</td>
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### SECTION 11. TOXICOLOGICAL INFORMATION:

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<th>Exposure Route</th>
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<tr>
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<td>Skin</td>
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<tr>
<td>Eyes</td>
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### Information on Toxicological Effects:

<table>
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<tr>
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</tr>
<tr>
<td>Inhalation LC50</td>
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</tr>
<tr>
<td>Dermal LD50</td>
<td>No data available</td>
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<tr>
<td>Other Information</td>
<td>No data available</td>
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<tr>
<td>Skin Corrosion/Irritation</td>
<td>No data available</td>
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<tr>
<td>Serious Eye Damage/Irritation</td>
<td>No data available</td>
</tr>
<tr>
<td>Respiratory or Skin Sensitization</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Germ Cell Mutagenicity: No data available

Carcinogenicity:
- IARC: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.
- NTP: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.
- OSHA: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

Reproductive Toxicity: No data available
Teratogenicity: No data available
Specific Target Organ Toxicity - Single Exposure: No data available
Specific Target Organ Toxicity - Repeated Exposures: No data available
Aspiration Hazard: No data available
Signs and Symptoms of Exposure: No data available
Synergistic Effects: No data available
Additional Information: None known.

SECTION 12. ECOLOGICAL INFORMATION:

Toxicity: No data available.
Persistence and Degradability: No data available.
Bioaccumulative Potential: No data available.
Mobility in Soil: No data available.
PBT and vPvB Assessment: No data available.
Other Adverse Effects: No data available.
SECTION 13. DISPOSAL CONSIDERATIONS:

Product: Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Contaminated Packaging: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION:

DOT: Not regulated.
IMDG: Not regulated.
IATA: Not regulated.

SECTION 15. REGULATORY INFORMATION:

US Federal Regulations:
- SARA 302 Components: None present or none present in regulated quantities.
- SARA 313 Components: None present or none present in regulated quantities.
- SARA 311/312 Hazards: No data available.

US State Regulations:
- California Prop. 65: No ingredient regulated by CA Prop 65 present.
- Massachusetts RTK: No ingredient regulated by MS Right to Know Act present.
- New Jersey & Community RTK: Water CAS No. 7732-18-5
- Pennsylvania RTK: Water CAS No. 7732-18-5
- Rhode Island RTK: No ingredient regulated by RI Right to Know Act present.
SECTION 16. OTHER INFORMATION:

Issue Date: 9/10/2015
Revision Date: 4/29/2016
Version: 3.0
Further Information: No data available.
Disclaimer: The above information is believed to be correct but does not claim to be all inclusive. This document shall be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Omega Bio-tek, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.
SECTION 1. IDENTIFICATION OF PRODUCT AND COMPANY:

Product Name: TL Buffer

Manufacturer or Supplier Details:
- Company Name: Omega Bio-tek, Inc.
- Address: 400 Pinnacle Way, Suite 450
  Norcross, GA 30071
  USA
- Telephone: 1-800-832-8896
- Email: info@omegabiotek.com
- Emergency Telephone: CHEMTREC
  USA & Canada: 1-800-424-9300
  Outside USA & Canada: 1-703-527-3887

Recommended Use of the Chemical and Restrictions on Use:
- Recommended Use: For research use only.

SECTION 2. HAZARDS IDENTIFICATION

Hazard Classification:
- Health Hazards: No known OSHA hazards.
- Not a dangerous substance according to GHS.

GHS Label Element:
- Hazard Symbol: N/A

Hazard Statements:
- Not a hazardous substance or mixture.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS:

Substance or Mixture: Mixture of non-hazardous substances.

Synonyms/Common Names: N/A
SECTION 4. FIRST AID MEASURES:

General Advice: Wear protective gloves/protective clothing/eye protection/face protection.

If Inhaled: If not breathing, give artificial respiration.

In Case of Skin Contact: Wash with soap and water.

In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing.

If Swallowed: N/A

Most Important Symptoms and Effects, Acute and Delayed: N/A

Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically. Symptoms may be delayed.

SECTION 5. FIREFIGHTING MEASURES:

Conditions of Flammability: Not flammable or combustible.

Suitable Extinguishing Media: Dry powder, CO₂, water spray or regular foam.

Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary.

Hazardous Combustion Products: N/A

Further Information: Prevent firefighting water from entering surface water or groundwater.
SECTION 6. ACCIDENTAL RELEASE MEASURES:

Personal Precautions: Avoid inhalation of vapors or mist. See Section 8: Exposure Controls/Personal Protection for more information.

Environmental Precautions: N/A

Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols.

Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill.

SECTION 7. HANDLING AND STORAGE:

Precautions for Safe Handling: Handle in accordance with good chemical hygiene and safety practices. Protect from moisture. Avoid contact with eyes, skin and clothing. Avoid inhalation of vapors or mist.

Conditions for Safe Storage: Keep container tightly closed in a dry, well-ventilated place.

Imcompatible Products: N/A

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Appropriate Engineering Controls: Adequate ventilation and access to eye washing stations are required.

Recommendations for Personal Protective Measures:

Hand Protection: Use gloves when handling this product. Inspect gloves prior to use for any visible damage. Use proper glove removal technique to prevent contact with skin. Dispose of gloves in accordance with applicable laws. Wash and dry hands after use.

Eye Protection: Use a face shield and/or safety goggles when handling this product. Use eyewear that has been approved by NIOSH.

Skin and Body Protection: Wear appropriate laboratory attire when handling this product, such as gloves, long pants, closed-toe shoes and a laboratory coat.
Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be used.

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product. Do not eat, drink or smoke when handling this product.

Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc:
N/A

Components with Workplace Control Parameters:
N/A

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
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<tr>
<td>Odor</td>
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<tr>
<td>Odor Threshold</td>
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<td>Melting Point/Freezing Point</td>
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<td>Initial Boiling Point/Boiling Range</td>
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<td>Evaporation Rate</td>
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<tr>
<td>Flammability (Solid, Gas)</td>
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</tr>
<tr>
<td>Upper/Lower Limits on Flammability and Explosive Limits:</td>
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<td>Flammability Limit (Upper)</td>
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<td>Vapor Pressure</td>
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<td>Vapor Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative Density</td>
<td>No data available</td>
</tr>
</tbody>
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Solubility:
Solubility in Water: No data available
Solubility (Other): No data available
Partition Coefficient (n-octanol/water): No data available
Auto-Ignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available

SECTION 10. STABILITY AND REACTIVITY:
Reactivity: No dangerous reactions known under conditions of normal use.
Chemical Stability: Stable under recommended storage conditions.
Possibility of Hazardous Reactions: N/A
Conditions to Avoid: N/A
Materials to Avoid: N/A
Hazardous Decomposition Products: N/A

SECTION 11. TOXICOLOGICAL INFORMATION:
Information on Likely Routes of Exposure:
Inhalation: No data available
Ingestion: No data available
Skin: No data available
Eyes: No data available

Information on Toxicological Effects:
Acute Toxicity:
Oral LD50: No data available
Inhalation LC50: No data available
Dermal LD50: No data available
Other Information: No data available
Skin Corrosion/Irritation: No data available
Serious Eye Damage/Irritation: No data available
Respiratory or Skin Sensitization: No data available
Germ Cell Mutagenicity: No data available

Carcinogenicity:
- IARC: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.
- NTP: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.
- OSHA: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

Reproductive Toxicity: No data available
Teratogenicity: No data available
Specific Target Organ Toxicity - Single Exposure: No data available
Specific Target Organ Toxicity - Repeated Exposures: No data available
Aspiration Hazard: No data available
Signs and Symptoms of Exposure: No data available
Synergistic Effects: No data available
Additional Information: None known.

SECTION 12. ECOLOGICAL INFORMATION:

Toxicity: No data available.
Persistence and Degradability: No data available.
Bioaccumulative Potential: No data available.
Mobility in Soil: No data available.
PBT and vPvB Assessment: No data available.
Other Adverse Effects: No data available.
SECTION 13. DISPOSAL CONSIDERATIONS:

Product: Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Contaminated Packaging: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION:

DOT: Not regulated.
IMDG: Not regulated.
IATA: Not regulated.

SECTION 15. REGULATORY INFORMATION:

US Federal Regulations:
SARA 302 Components: None present or none present in regulated quantities.
SARA 313 Components: None present or none present in regulated quantities.
SARA 311/312 Hazards: No data available.

US State Regulations:
California Prop. 65: No ingredient regulated by CA Prop 65 present.
Massachusetts RTK: No ingredient regulated by MS Right to Know Act present.
New Jersey & Community RTK: Water CAS No. 7732-18-5
Pennsylvania RTK: Water CAS No. 7732-18-5
Rhode Island RTK: No ingredient regulated by RI Right to Know Act present.
SECTION 16. OTHER INFORMATION:

Issue Date: 9/10/2015
Revision Date: 4/29/2016
Version: 3.0
Further Information: No data available.
Disclaimer: The above information is believed to be correct but does not claim to be all inclusive. This document shall be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Omega Bio-tek, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.
SECTION 1. IDENTIFICATION OF PRODUCT AND COMPANY:

**Product Name:** VHB Buffer

**Manufacturer or Supplier Details:**
- **Company Name:** Omega Bio-tek, Inc.
- **Address:** 400 Pinnacle Way, Suite 450
  Norcross, GA 30071
  USA
- **Telephone:** 1-800-832-8896
- **Email:** info@omegabiotek.com
- **Emergency Telephone:** CHEMTREC
  USA & Canada: 1-800-424-9300
  Outside USA & Canada: 1-703-527-3887

**Recommended Use of the Chemical and Restrictions on Use:**
- **Recommended Use:** For research use only.

SECTION 2. HAZARDS IDENTIFICATION

**Hazard Classification:**
- **Health Hazards:**
  - Acute toxicity (oral)
  - Skin corrosion/irritation
  - Serious eye damage/eye irritation
  - Specific target organ toxicity - single exposure

**GHS Label Element:**
- **Hazard Symbol:**
- **Signal Word:** Warning

**Hazard Statements:**
- **H302** - Harmful if swallowed.
- **H315** - Causes skin irritation.
- **H319** - Causes serious skin irritation.
- **H332** - Harmful if inhaled.
Safety Data Sheet

Precautionary Statements:
- P261 - Avoid breathing dust/fumes/gas/mist/vapors/spray.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P311 - Call a poison control center or doctor/physician.

Potential Health Effects:
- **Aggravated Medical Conditions:** May cause nervous system disturbances.
- **Symptoms of Overexposure:**
  - **Inhalation:** Toxic if inhaled. May cause respiratory tract irritation.
  - **Skin:** Harmful if absorbed through skin. May cause skin irritation.
  - **Eyes:** Causes eye irritation.
  - **Ingestion:** Harmful if swallowed.

Carcinogenicity:
- **IARC**
  - No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- **ACGIH**
  - No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.
- **OSHA**
  - No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.
- **NTP**
  - No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS:

- **Substance or Mixture:** Mixture of the substances listed below with non-hazardous additions.

- **Synonyms/Common Names:** Guanidinium chloride, Guanidinium monohydrochloride, Guanidinium hydrochloride

<table>
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<th>Chemical Name</th>
<th>CAS No.</th>
<th>Concentration (%)</th>
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<tbody>
<tr>
<td>Guanidine Hydrochloride</td>
<td>50-01-1</td>
<td>50-100%</td>
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</table>
**SECTION 4. FIRST AID MEASURES:**

**General Advice:** Exit to a safe area. Consult a physician. Seek medical attention.

**If Inhaled:** Move to fresh air. If not breathing, give artificial respiration. Seek medical attention.

**In Case of Skin Contact:** Exit to safe area. Wash thoroughly with soap and water. Seek medical attention.

**In Case of Eye Contact:** Flush eyes with clean water for a minimum of 15 minutes, keeping eyes open. Seek medical attention.

**If Swallowed:** Rinse mouth with water. Never give anything by mouth to an unconscious person. Seek medical attention.

**Most Important Symptoms and Effects, Acute and Delayed:** Irritating to eyes, respiratory system and skin. Narcotic effect.

**Recommendations for Immediate Medical Attention and Special Treatment:** Treat symptomatically. Symptoms may be delayed.

**SECTION 5. FIREFIGHTING MEASURES:**

**Conditions of Flammability:** Not flammable or combustible.

**Suitable Extinguishing Media:** Dry powder, CO₂ water spray or regular foam.

**Special Protective Equipment for Firefighters:** Wear self-contained breathing apparatus, if necessary.

**Hazardous Combustion Products:** Carbon oxides (CO, CO₂), nitrogen oxides (NOx), hydrogen chloride gas

**Further Information:** Prevent firefighting water from entering surface water or groundwater.
SECTION 6. ACCIDENTAL RELEASE MEASURES:

Personal Precautions: Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. See Section 8: Exposure Controls/Personal Protection for more details.

Environmental Precautions: Prevent further leakage if area is safe. Do not let product enter drains. Avoid discharge into the environment.

Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols.

Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill. Dispose of hazardous waste. Do not flush with water.

SECTION 7. HANDLING AND STORAGE:

Precautions for Safe Handling: Handle in accordance with good chemical hygiene and safety practices. Protect from moisture. Avoid contact with eyes, skin and clothing. Avoid inhalation of vapors or mist.

Conditions for Safe Storage: Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture.

Incompatible Products: Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Appropriate Engineering Controls: Adequate ventilation and access to eye washing stations are required.

Recommendations for Personal Protective Measures:

Hand Protection: Use gloves when handling this product. Inspect gloves prior to use for any visible damage. Use proper glove removal technique to prevent contact with skin. Dispose of gloves in accordance with applicable laws. Wash and dry hands after use.

Eye Protection: Use a face shield and/or safety goggles when handling this product. Use eyewear that has been approved by NIOSH.

Skin and Body Protection: Wear appropriate laboratory attire when handling this product, such as gloves, long pants, closed-toe shoes and a laboratory coat.
Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be used.

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product. Do not eat, drink or smoke when handling this product.

Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc:

Components with Workplace Control Parameters:

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<th>Components</th>
<th>CAS No.</th>
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<td>Flammability Limit (Upper)</td>
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<td>Flammability Limit (Lower)</td>
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<td>Explosive Limit (Upper)</td>
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<td>Explosive Limit (Lower)</td>
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<tr>
<td>Vapor Pressure</td>
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<tr>
<td>Vapor Density</td>
<td></td>
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</tbody>
</table>
Section 10. Stability and Reactivity:

Reactivity: No dangerous reaction known under conditions of normal use.
Chemical Stability: Stable under recommended storage conditions.
Possibility of Hazardous Reactions: Hazardous polymerization does not occur.
Conditions to Avoid: Contact with incompatible materials, excessive heat.
Materials to Avoid: Strong oxidizing agents, strong acids, inorganic salts, chlorinated compounds
Hazardous Decomposition Products: Carbon oxides, nitrogen oxides (NOx), hydrogen chloride gas

Section 11. Toxicological Information:

Information on Likely Routes of Exposure:
Inhalation: Harmful if inhaled. May cause respiratory tract irritation.
Ingestion: Harmful if swallowed.
Skin: Causes skin irritation.
Eyes: Causes serious eye irritation.

Information on Toxicological Effects:
Acute Toxicity:
Oral LD50: 1,900 mg/kg (Rat)
Inhalation LC50: No data available
Dermal LD50: 2,000 mg/kg (Rabbit)
Other Information: No data available
## Skin Corrosion/Irritation:
Causes skin irritation.

## Serious Eye Damage/Irritation:
Causes serious eye irritation.

## Respiratory or Skin Sensitization:
Components of this product may be absorbed into the body through the skin. Irritating to skin and mucus membranes.

## Germ Cell Mutagenicity:
No mutagenic components identified.

### Carcinogenicity:
- **IARC:** No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- **ACGIH:** No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.
- **NTP:** No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.
- **OSHA:** No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

### Reproductive Toxicity:
No component toxic to reproduction.

### Teratogenicity:
No data available.

### Specific Target Organ Toxicity - Single Exposure:
Respiratory tract irritation.

### Specific Target Organ Toxicity - Repeated Exposures:
No data available.

### Aspiration Hazard:
No data available.

### Signs and Symptoms of Exposure:
Irritating to eyes, respiratory system and skin. Narcotic effect.

### Synergistic Effects:
No data available.

### Additional Information:
None known.

## SECTION 12. ECOLOGICAL INFORMATION:

### Toxicity:
No data available.

### Persistence and Degradability:
No data available.

### Bioaccumulative Potential:
No data available.

### Mobility in Soil:
Product is water soluble and may spread in water systems.

### PBT and vPvB Assessment:
No data available.

### Other Adverse Effects:
The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
SECTION 13. DISPOSAL CONSIDERATIONS:

**Product:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

S29 - Do not empty into drains.
S57 - Use appropriate container to avoid environmental contamination.

Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

**Contaminated Packaging:**

Disposal must be made according to official regulations.

To minimize exposure, please refer to Section 8: Exposure Control/Personal Protection of this SDS.

SECTION 14. TRANSPORT INFORMATION:

**DOT:**

Not regulated.

**IMDG:**

Not regulated.

**IATA:**

Not regulated.

SECTION 15. REGULATORY INFORMATION:

**US Federal Regulations:**

**OSHA Hazards:**

Aggravated Medical Conditions: May cause nervous system disturbances.

Symptoms of Overexposure:

Inhalation: Toxic if inhaled. May cause respiratory tract irritation.

Skin: Harmful if absorbed through skin. May cause skin irritation.

Eyes: Causes eye irritation.

Ingestion: Harmful if swallowed.

**SARA 302 Components:**

None present or none present in regulated quantities.

**SARA 313 Components:**

None present or none present in regulated quantities.

**SARA 311/312 Hazards:**

Acute health hazard, chronic health hazard
Safety Data Sheet

Trade Name: VHB Buffer
Revision Date: 4/28/2016

US State Regulations:
- California Prop. 65: No ingredient regulated by CA Prop 65 present.
- New Jersey & Community RTK: No ingredient regulated by NJ Right to Know Act present.
- Massachusetts RTK: No ingredient regulated by MA Right to Know Act present.
- Pennsylvania RTK: No ingredient regulated by PA Right to Know Act present.
- Rhode Island RTK: No ingredient regulated by RI Right to Know Act present.

SECTION 16. OTHER INFORMATION:

Issue Date: 8/19/2015
Revision Date: 4/28/2016
Version: 5.0
Further Information: No data available.
Disclaimer: The above information is believed to be correct but does not claim to be all inclusive. This document shall be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Omega Bio-tek, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.