SECTION 1: Identification of the substance/mixture and of the supplier

Product name: Calcium Hardness Buffer

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: ANDCA1119-A

Recommended uses of the product and restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific, Inc
9 Barnhart Drive, Hanover, PA 17331
(717) 632-1291

Supplier Details:

Anderson Chemical Company
325 South David Avenue, Litchfield, MN 55355
(320) 693-2477

Emergency telephone number:

Anderson Chemical Company   Emergency Telephone No.: (800) 255-3924

SECTION 2: Hazards identification

Classification of the substance or mixture:

Corrosive

Corrosive to metals, category 1
Skin corrosion, category 1A
Serious eye damage, category 1

Hazard statements:
May be corrosive to metals
Causes severe skin burns and eye damage
Causes serious eye damage

Precautionary statements:
If medical advice is needed, have product container or label at hand
Read label before use
Keep only in original container
Do not breathe dust/fume/gas/mist/vapours/spray
Wash skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
If eye irritation persists get medical advice/attention
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see supplemental first aid instructions on this label)
Absorb spillage to prevent material damage
Store locked up
Dispose of contents and container to an approved waste disposal plant

Other Non-GHS Classification:

SECTION 3 : Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredients</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS 7732-18-5</td>
<td>Deionized Water</td>
<td>76 %</td>
</tr>
<tr>
<td>CAS 1310-73-2</td>
<td>Sodium Hydroxide, ACS</td>
<td>24 %</td>
</tr>
</tbody>
</table>

Percentages are by weight

SECTION 4 : First aid measures

Description of first aid measures

**After inhalation:** Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists.

**After skin contact:** Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists.

**After eye contact:** Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:** Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation, Nausea, Headache, Shortness of breath.
Indication of any immediate medical attention and special treatment needed:
If seeking medical attention, provide SDS document to physician.

SECTION 5: Firefighting measures

Extinguishing media
Suitable extinguishing agents: If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

For safety reasons unsuitable extinguishing agents:

Special hazards arising from the substance or mixture:
Combustion products may include carbon oxides or other toxic vapors.

Advice for firefighters:

Protective equipment:

Additional information (precautions): Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

Environmental precautions:
Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

Methods and material for containment and cleaning up:
If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

Reference to other sections:

SECTION 7: Handling and storage

Precautions for safe handling:
Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas.

Conditions for safe storage, including any incompatibilities:
Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly sealed.

SECTION 8: Exposure controls/personal protection
Safety Data Sheet
according to 29CFR1910/1200 and GHS Rev. 3

Effective date: 10.24.2014

Calcium Hardness Buffer

Control Parameters: 1310-73-2, Sodium Hydroxide, ACGIH TLV: 2 mg/m3
1310-73-2, Sodium Hydroxide, OSHA PEL: 2mg/m3

Appropriate Engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Respiratory protection: Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.

Protection of skin: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Eye protection: Safety glasses with side shields or goggles.

General hygienic measures: The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

SECTION 9 : Physical and chemical properties

<table>
<thead>
<tr>
<th>Appearance (physical state,color):</th>
<th>Clear, colorless liquid</th>
<th>Explosion limit lower:</th>
<th>0 Vol %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor:</td>
<td>Odorless</td>
<td>Vapor pressure:</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>Not determined</td>
<td>Vapor density:</td>
<td>0.62 (Air = 1)</td>
</tr>
<tr>
<td>pH-value:</td>
<td>&gt;12</td>
<td>Relative density:</td>
<td>Approx 1</td>
</tr>
<tr>
<td>Melting/Freezing point:</td>
<td>0 °C (32 °F)</td>
<td>Solubilities:</td>
<td>Material is water soluble.</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>100°C (212°F)</td>
<td>Partition coefficient (n-octanol/water):</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash point (closed cup):</td>
<td>Not applicable</td>
<td>Auto/Self-ignition temperature:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>Not determined</td>
<td>Decomposition temperature:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Density:</td>
<td>Not Determined</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 10 : Stability and reactivity

Reactivity:
Chemical stability: No decomposition if used and stored according to specifications.
Possible hazardous reactions: Oxides of sodium, decomposition by reaction with certain metals releases flammable and explosive hydrogen gas.
Section 1: Toxicological Information

**Acute Toxicity:**
- Oral: 1310-73-2, LD50 rat: 500 mg/24 H

**Chronic Toxicity:** No additional information.

**Corrosion Irritation:** No additional information.

**Sensitization:** No additional information.

**Single Target Organ (STOT):** No additional information.

**Numerical Measures:** No additional information.

**Carcinogenicity:** No additional information.

**Mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

Section 12: Ecological Information

**Ecotoxicity**
- Persistence and degradability: Readily degradable in the environment.
- Bioaccumulative potential:
- Mobility in soil: Aqueous solution has high mobility in soil.
- Other adverse effects:

Section 13: Disposal Considerations

**Waste disposal recommendations:**
- Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

Section 14: Transport Information

**UN-Number**
- 1824

**UN proper shipping name**
- Sodium Hydroxide Solution

**Transport hazard class(es)**

**Packing group:** II

**Environmental hazard:**

**Transport in bulk:**

Created by Global Safety Management, 1-813-435-5161 - www.GSMSDS.com
Special precautions for user:

SECTION 15 : Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Acute
SARA Section 313 (Specific toxic chemical listings):
None of the ingredients is listed

RCRA (hazardous waste code):
None of the ingredients is listed

TSCA (Toxic Substances Control Act):
All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):
1310-73-2 Sodium Hydroxide 1000 lbs

Proposition 65 (California):

Chemicals known to cause cancer:
None of the ingredients is listed

Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed

Chemicals known to cause developmental toxicity:
None of the ingredients is listed

Canada

Canadian Domestic Substances List (DSL):
All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):
None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):
None of the ingredients is listed

SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:
Abbreviations and acronyms:
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
CFR: Code of Federal Regulations (USA)
SARA: Superfund Amendments and Reauthorization Act (USA)
RCRA: Resource Conservation and Recovery Act (USA)
TSCA: Toxic Substances Control Act (USA)
NPRI: National Pollutant Release Inventory (Canada)
DOT: US Department of Transportation

Effective date: 10.24.2014
Last updated: 06.01.2015