SAFETY DATA SHEET

SECTION 1: Identification

Product identifier
Product name
Calcium Buffer
Product number
R-0010; R-0010-PL
Recommended use and restrictions
To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer
Taylor Technologies, Inc.
31 Loveton Circle
Sparks, MD 21152
Phone: (410) 472-4340
Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) Identification

Physical hazards
Corrosive to metals Category 1
Health hazards
Eye damage/irritation Category 1
Skin corrosion/irritation Category 1B
Environmental hazards
Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.

Label elements
Hazard pictograms
Signal word
Danger
Hazard statements
May be corrosive to metals. Causes severe skin burns and serious eye damage.
Precautionary statements
Prevention
Do not breathe dust or mists. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Keep only in original container.
Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a physician or poison control center. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (OR HAIR): Immediately take off all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a physician or poison control center. Absorb spillage to prevent material damage.
Storage
Store locked up. Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store out of direct sunlight between 36°F–85°F.
Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard not otherwise classified
Not applicable

SECTION 3: Composition/Information on Ingredients

Mixture
Chemical name
Water
Sodium Hydroxide
Common name and synonyms
Dihydrogen oxide
Caustic Soda
CAS number
7732-18-5
1310-73-2
% w/w
80-100
1-5

SECTION 4: First-Aid Measures

If inhaled
Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.
In case of skin contact
Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical attention if irritation develops.

In case of eye contact
Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice.

If swallowed
Immediately call a physician or poison control center. Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs.

Most important symptoms and effects, both acute and delayed
Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep person under observation. Symptoms may be delayed.

General information
Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5:  Firefighting Measures

Extinguishing media
Suitable extinguishing media Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture
Fire hazard Not flammable
Explosion hazard Not explosive
Reactivity May be corrosive to metals
Hazardous combustion products Sodium oxides. Other irritating fumes and smoke.

Advice for firefighters
Precautionary measures Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instructions Use water spray or fog for cooling exposed containers.
Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.
Other information Refer to section 9 of the SDS for flammability properties.

SECTION 6:  Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions
Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up
Ventilate the area. Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water to remove residual contamination. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections
For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7:  Handling and Storage

Personal precautions, protective equipment, and emergency procedures
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.
Conditions for safe storage, including any incompatibilities
Keep tightly capped. Store out of direct sunlight between 36°F- 85°F. Store locked up. Store in corrosive-resistant container with corrosive-resistant inner liner. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure Controls/Personal Protection

Occupational exposure limits

US ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide (CAS 1310-73-2)</td>
<td>Ceiling</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

US NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
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<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide (CAS 1310-73-2)</td>
<td>Ceiling</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide (CAS 1310-73-2)</td>
<td>TWA</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

Biological limit values
No biological exposure limits noted for the ingredient(s).

Exposure controls
Appropriate engineering controls
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

Personal protective equipment
Eye/face protection
Wear appropriate chemical safety goggles if contact is likely to occur.

Skin protection
Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.

Body protection
Wear appropriate protective clothing if contact is likely to occur.

Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and Chemical Properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Clear, colorless, or nearly colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>13.1</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point (boiling range)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper Flammability Limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Relative density: No data available
Solubility: Soluble in all proportions
Partition coefficient (n-octanol/water): No data available
Viscosity: No data available
Explosive properties: No data available
Oxidizing properties: No data available

SECTION 10: Stability and Reactivity
Reactivity: May be corrosive to metals.
Chemical stability: Stable under recommended handling and storage conditions (refer to section 7 of the SDS).
Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.
Conditions to avoid: Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials: Acids, metals, and oxidizing agents.
Hazardous decomposition products: No hazardous decomposition products under normal conditions.

SECTION 11: Toxicological Information
Information on toxicological effects:
Likely routes of exposure are skin/eye contact and ingestion.
Most important symptoms/effects, acute and delayed:
- Direct skin contact may cause corrosive skin burns, deep ulcerations, and possibly permanent scarring.
- Direct contact with concentrated solutions may be corrosive and may cause severe damage, including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
- Inhalation of mists can cause respiratory irritation. Symptoms may include coughing, choking, and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.
- May produce burns to lips, oral cavity, upper airway, esophagus, and possibly the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations, and bleeding.

Acute toxicity: This product is not classified as an acute toxicity hazard.
Skin corrosion/irritation: Causes severe skin burns.
Serious eye damage/eye irritation: Causes serious eye damage.
Respiratory sensitization: No data available
Skin sensitization: No data available
Germ cell mutagenicity: No data available
Carcinogenicity:
IARC Monographs. Overall Evaluation of Carcinogenicity: Not regulated
US National Toxicology Program (NTP) Report on Carcinogens: Not regulated
Reproductive toxicity: No data available
Specific target organ toxicity (single exposure): No data available
Specific target organ toxicity (repeated exposure): No data available
Aspiration hazard: No data available

SECTION 12: Ecological Information
Ecotoxicity: This product is not classified as environmentally hazardous.
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
SECTION 13: Disposal Considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport Information

DOT

| UN number | 1824 |
| UN Proper shipping name | Sodium Hydroxide Solution |
| Reportable Quantity | 5000 lbs |
| Class (Subsidiary risk) | 8 |
| Label(s) | 8 |
| Packing group | II |
| Special provisions | B2, IB2, N34, T7, TP2 |
| Packaging exceptions | 154 |
| Packaging, non-bulk | 202 |

IATA

| UN number | 1824 |
| UN Proper shipping name | Sodium Hydroxide Solution |
| Class (Subsidiary risk) | 8 |
| Packing group | II |
| Special provisions | A3, A803 |

IMDG

| UN number | 1824 |
| UN Proper shipping name | Sodium Hydroxide Solution |
| Class (Subsidiary risk) | 8 |
| Packing group | II |
| Environmental hazards |  |
| Marine pollutant | No |
| Special provisions |  |
| EmS | F-A, S-B |

Special precautions for user
Read safety instructions, SDS, and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
This substance/mixture is not intended to be transported in bulk.

DOT hazard pictograms

IATA; IMDG hazard pictograms
SECTION 15: Regulatory Information

US federal regulations

**CERCLA Hazardous Substance (40 CFR 302.4)**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>Reportable Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
<td>1000 lbs</td>
</tr>
</tbody>
</table>

**SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)**

Not regulated

**SARA 304 Emergency Release Notification**

Not regulated

**SARA 311/312 Hazardous Chemical**

<table>
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</table>

**SARA 313 (TRI reporting)**

Not regulated

**TSCA Section 8(b) Chemical Inventory**

All components are on the U.S. EPA TSCA Inventory list.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated

Other federal regulations

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)**

Not regulated

**Clean Air Act (CAA) Section 112® Accidental Release Prevention (40 CFR 68.130)**

Not regulated

**Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)**

Not regulated

**Safe Drinking Water Act (SDWA)**

Not regulated

US state regulations

**California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)**

Not regulated

**Massachusetts Right-to-Know Act**

Not regulated

**New Jersey Worker and Community Right-to-Know Act**

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**Pennsylvania Worker and Community Right-to-Know Act**

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**Rhode Island Right-to-Know Act**

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<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
</tr>
</tbody>
</table>
SECTION 16: Other Information

NFPA Rating

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health hazard</td>
<td>2</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>0</td>
</tr>
<tr>
<td>Reactivity</td>
<td>1</td>
</tr>
<tr>
<td>Specific</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Disclaimer

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