Section 1  
Product Description

Product Name: Sodium Hydroxide, 0.5M  
Recommended Use: Science education applications  
Synonyms: Caustic Soda, Lye, Sodium Hydroxide, 0.5N  
Distributor: Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)  
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2  
Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**DANGER**

Causes severe skin burns and eye damage. Causes serious eye damage. Harmful to aquatic life.

GHS Classification:
Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1, Hazardous to the aquatic environment - Acute Category 3

Section 3  
Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>98.7</td>
</tr>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Section 4  
First Aid Measures

Emergency and First Aid Procedures

- **Inhalation:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- **Eyes:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **Skin Contact:** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
- **Ingestion:** IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Section 5  
Firefighting Procedures

- **Extinguishing Media:** Use media suitable to extinguish surrounding fire.
- **Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
- **Fire and/or Explosion Hazards:** Fire or excessive heat may produce hazardous decomposition products.
- **Hazardous Combustion Products:** Carbon dioxide, Carbon monoxide

Section 6  
Spill or Leak Procedures
Steps to Take in Case Material Is Released or Spilled: Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental Precautions: Avoid breathing material. Avoid contact with skin and eyes. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7 Handling and Storage

Handling: Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Storage: Store locked up. Suitable for any general chemical storage.

Storage Code: White - Corrosive. Separate acids from bases; separate oxidizer acids from organic acids.

Section 8 Protection Information

Chemical Name
Sodium Hydroxide

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH (TWA)</th>
<th>OSHA PEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>N/A</td>
<td>2 mg/m3 TWA</td>
</tr>
</tbody>
</table>

Control Parameters

Engineering Measures: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE):

Respiratory Protection: No respiratory protection required under normal conditions of use.

Respirator Type(s): None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Natural latex, Neoprene, Nitrile

Section 9 Physical Data

Formula: NaOH (aq)
Molecular Weight: 40.00
Appearance: Colorless Liquid
Odor: None
Odor Threshold: No data available
pH: 13
Melting Point: No data available
Boiling Point: No data available
Flash Point: No data available
Flammable Limits in Air: No data available

Vapor Pressure: No data available
Evaporation Rate (BuAc=1): No data available
Vapor Density (Air=1): No data available
Specific Gravity: >1
Solubility in Water: Soluble
Log Pow (calculated): No data available
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity: No data available
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: Exposure to moisture
Incompatible Materials: Water-reactive materials, Strong reducing agents, Acids, Hydroquinone, Organic halides, Phosphorus, Alcohols, Metals, Aldehydes
Hazardous Polymerization: Will not occur
Section 11  Toxicity Data

Routes of Entry
- Ingestion, skin and eye contact.

Symptoms (Acute):
- Gastrointestinal, Coffee Ground Emesis

Delayed Effects:
- No data available

Acute Toxicity:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
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</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>Oral LD50 Rat</td>
<td></td>
<td>90000 mg/kg</td>
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</table>

Carcinogenicity:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
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</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Chronic Effects:

- No evidence of a mutagenic effect.
- No evidence of a teratogenic effect (birth defect).
- No evidence of a sensitization effect.
- No evidence of negative reproductive effects.

Target Organ Effects:

- Acute: No data available
- Chronic: No data available

Section 12  Ecological Data

Overview:
- Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife.

Mobility:
- This material is expected to have high mobility in soil. It absorbs weakly to most soil types.

Persistence:
- Dissolved into water

Bioaccumulation:
- Bioconcentration is not expected to occur.

Degradability:
- Does not biodegrade readily.

Other Adverse Effects:
- No data

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Eco Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>No data available</td>
</tr>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
<td>Aquatic LC50 (96h) Rainbow Trout 45.4 MG/L</td>
</tr>
</tbody>
</table>

Section 13  Disposal Information

Disposal Methods:
- Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Waste Disposal Code(s):
- If discarded, this product is considered a RCRA corrosive waste, D002.

Section 14  Transport Information

Ground - DOT Proper Shipping Name:
- UN1824
  - Sodium Hydroxide Solution
  - Class 8
  - P.G. III

Air - IATA Proper Shipping Name:
- UN1824
  - Sodium Hydroxide Solution
  - Class 8
  - P.G. III

Section 15  Regulatory Information

TSCA Status:
- All components in this product are on the TSCA Inventory.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>§ 313 Name</th>
<th>§ 304 RQ</th>
<th>CERCLA RQ</th>
<th>§ 302 TPQ</th>
<th>CAA 112(2) TQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
<td>No</td>
<td>1000 lb</td>
<td>1000lb (454kg)</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>California Prop 65</td>
<td></td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td>No California Proposition 65 ingredients</td>
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</tbody>
</table>

Sodium Hydroxide, 0.5M
The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

<table>
<thead>
<tr>
<th>Glossary</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service Number</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act</td>
</tr>
<tr>
<td>DOT</td>
<td>U.S. Department of Transportation</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>N/A</td>
<td>Not Available</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>ppm</td>
<td>Parts per million</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation and Recovery Act</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substances Control Act</td>
</tr>
<tr>
<td>IDLH</td>
<td>Immediately dangerous to life and health</td>
</tr>
</tbody>
</table>