Section 1. Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>Chemical Name/Trade Name</th>
<th>Sodium Hydroxide, 6.0N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248</td>
</tr>
<tr>
<td>Commercial Name(s)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Synonym</td>
<td>Not available.</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Chemical Family</td>
<td>Alkali.</td>
</tr>
<tr>
<td>Chemical Formula</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

Manufacturer
SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

Section 2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
<th>CEIL (mg/m³)</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Water</td>
<td>7732-18-5</td>
<td>2</td>
<td>2</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>2) Sodium hydroxide</td>
<td>1310-73-2</td>
<td>2</td>
<td>2</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients
Sodium hydroxide
LD50: Not available.
LC50: Not available.

Section 3. Hazards Identification

Potential Acute Health Effects
Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive). Slightly hazardous in case of inhalation (lung sensitizer). Non-corrosive for lungs. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Sodium Hydroxide, 6.0N

Potential Chronic Health Effects
Carcinogenic Effects: Not available.
Mutagenic Effects: Mutagenic for mammalian somatic cells. [Sodium hydroxide].
Teratogenic Effects: Not available.
Developmental Toxicity: Not available.
The substance may be toxic to mucous membranes, upper respiratory tract, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Section 4. First Aid Measures

Eye Contact
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention immediately. Finish by rinsing thoroughly with running water to avoid a possible infection.

Skin Contact
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion
Not available.

Section 5. Fire and Explosion Data

Flammability of the Product
Non-flammable.

Auto-Ignition Temperature
Not applicable.

Flash Points
Not applicable.

Flammable Limits
Not applicable.

Products of Combustion
Not available.

Fire Hazards in Presence of Various Substances
Not applicable.

Explosion Hazards in Presence of Various Substances
Non-explosive in presence of open flames and sparks, of shocks.

Fire Fighting Media and Instructions
Not applicable.

Special Remarks on Fire Hazards
Sodium hydroxide + zinc metal dust causes ignition of the latter.
Under proper conditions of temperature, pressure and state of division, it can ignite or react violently with acetaldehyde, ally alcohol, allyl chloride, benzene-1,4-diol, chlorine trifluoride, 1,2 dichlorethylene, nitroethane, nitromethane, nitroparaffins, nitropropane, cinnamaldehyde, 2,2-dichloro-3,3-dimethylbutane.
Sodium hydroxide in contact with water may generate enough heat to ignite adjacent combustible materials.
Phosphorous boiled with NaOH yields mixed phosphines which may ignite spontaneously in air.
Sodium hydroxide and cinnamaldehyde + heat may cause ignition.
Reaction with certain metals releases flammable and explosive hydrogen gas. (Sodium Hydroxide)

Continued on Next Page
Sodium Hydroxide, 6.0N

Special Remarks on Explosion Hazards

Sodium hydroxide reacts to form explosive products with ammonia + silver nitrate.
Benzene extract of allyl benzenesulfonate prepared from allyl alcohol, and benzene sulfonyl chloride in presence of aqueous sodium hydroxide, under vacuum distillation, residue darkened and exploded.
Sodium Hydroxide + impure tetrahydrofuran, which can contain peroxides, can cause serious explosions.
Dry mixtures of sodium hydroxide and sodium tetrahydroborate liberate hydrogen explosively at 230-270 deg. C.
Sodium Hydroxide reacts with sodium salt of trichlorophenol + methyl alcohol + trichlorobenzene + heat to cause an explosion. (Sodium hydroxide)

Section 6. Accidental Release Measures

Small Spill
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: **Neutralize the residue with a dilute solution of acetic acid.**

Large Spill
Corrosive liquid.
Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. **Neutralize the residue with a dilute solution of acetic acid.** Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions
Do not breathe gas/fumes/vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as metals.

Storage
Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal Protection

Personal Protection in Case of a Large Spill
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits
**Sodium hydroxide**
- STEL: 2 (mg/m³) from ACGIH (TLV) [United States]
- TWA: 2 CEIL: 2 (mg/m³) from OSHA (PEL) [United States]
- CEIL: 2 (mg/m³) from NIOSH

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state and appearance</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless.</td>
</tr>
<tr>
<td>Taste</td>
<td>Not available.</td>
</tr>
<tr>
<td>Color</td>
<td>Clear Colorless.</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>pH (1% soln/water)</td>
<td>Basic.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>The lowest known value is 100°C (212°F) (Water).</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Critical Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.265 (Water = 1)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>The highest known value is 2.3 kPa (@ 20°C) (Water).</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>The highest known value is 0.62 (Air = 1) (Water).</td>
</tr>
<tr>
<td>Volatility</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Continued on Next Page
**Section 10. Stability and Reactivity Data**

**Stability**
The product is stable.

**Instability Temperature**
Not available.

**Conditions of Instability**
Incompatible materials

**Incompatibility with various substances**
Reactive with metals.
Slightly reactive to reactive with oxidizing agents, reducing agents, acids, alkalis.

**Corrosivity**
Extremely corrosive in presence of aluminum, of zinc.
Slightly corrosive in presence of stainless steel(304), of stainless steel(316).
Non-corrosive in presence of glass, of copper.

**Special Remarks on Reactivity**
Hygroscopic. Much heat is evolved when solid material is dissolved in water. Therefore cold water and caution must be used for this process.
Generates considerable heat when a sodium hydroxide solution is mixed with an acid
Sodium hydroxide solution and octanol + diborane during a work-up of a reaction mixture of oxime and diborane in tetrahyrofuran is very exothermic, a mild explosion being noted on one occasion.
Reactive with water, acids (mineral, non-oxidizing, e.g. hydrochloric, hydrofluoric acid, muriatic acid, phosphoric),
acids (mineral, oxidizing e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid),
aldehydes (e.g. acetaldehyde, acrolein, chloral hydrate, foraldehyde),
carbamates (e.g. carbonolate, carbofuran),
esters (e.g. butyl acetate, ethyl acetate, propyl formate),
halogenated organics (dibromoethane, hexachlorobenzene, methyl chloride, trichloroethylene),
isocyanates (e.g. methyl isocyanate), ketones (acetone, acetonphenone, MEK, MIBK),
acid chlorides, strong bases, strong oxidizing agents, strong reducing agents, flammable liquids, powdered metals and metals (i.e.
water, tin, zinc, hafnium, raney nickel),
metals (alkali and alkaline e.g. cesium, potassium, sodium),
metal compounds (toxic e.g. beryllium, lead acetate, nickel carbonyl, tetraethyl lead),
mixtures (e.g. potassium nitrile, sodium nitrile),
nitriles (e.g. acetonitrile, methyl cyanide),
metal compounds (organic e.g. nitrobenzene, nitromethane),
acetic anhydride, hydroquinone, chlorohydrin, chlorosulfonic acid, ethylene cyanohydrin, glyoxal,
hydrosulfuric acid, oleum, propiolactone, acetonitrile, phosphorus pentoxide, chloroethanol, chloroform-methanol,
tetrahydroborate, cyanogen azide, 1,2,4,5 tetrachlorobenzene, cinnamaldehyde.
Reacts with formaldehyde hydroxide to yield formic acid, and hydrogen. (Sodium hydroxide)

**Polymerization**
Will not occur.

**Section 11. Toxicological Information**

**Routes of Entry**
Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

**Toxicity to Animals**
LD50: Not available.
LC50: Not available.

**Chronic Effects on Humans**
MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Sodium hydroxide].
Contains material which may cause damage to the following organs: mucous membranes, upper respiratory tract,
skin, eyes.

**Other Toxic Effects on Humans**
Very hazardous in case of skin contact (irritant), of ingestion, ,
Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive), of inhalation (lung corrosive).

**Special Remarks on Toxicity to Animals**
Lowest Published Lethal Dose:
LDL [Rabbit] - Route: Oral; Dose: 500 mg/kg (Sodium hydroxide)

**Special Remarks on Chronic Effects on Humans**
May affect genetic material. Investigation as a mutagen (cytogenetic analysis) (Sodium hydroxide)

__Continued on Next Page__
### Section 12. Ecological Information

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5 and COD</td>
<td>Not available.</td>
</tr>
<tr>
<td>Products of Biodegradation</td>
<td>Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.</td>
</tr>
<tr>
<td>Toxicity of the Products of Biodegradation</td>
<td>The product itself and its products of degradation are not toxic.</td>
</tr>
<tr>
<td>Special Remarks on the Products of Biodegradation</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

### Section 13. Disposal Considerations

| Waste Disposal | Waste must be disposed of in accordance with federal, state and local environmental control regulations. |

### Section 14. Transport Information

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>Class 8: Corrosive material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification</td>
<td>: Sodium hydroxide, solution  (Sodium hydroxide) UNNA: 1824  PG: II</td>
</tr>
<tr>
<td>Special Provisions for Transport</td>
<td>Not available.</td>
</tr>
<tr>
<td>DOT (Pictograms)</td>
<td>![Corrosive Pictogram]</td>
</tr>
</tbody>
</table>

### Section 15. Other Regulatory Information and Pictograms

| Federal and State Regulations | Illinois toxic substances disclosure to employee act: Sodium hydroxide  
Illinois chemical safety act: Sodium hydroxide  
New York release reporting list: Sodium hydroxide  
Rhode Island RTK hazardous substances: Sodium hydroxide  
Pennsylvania RTK: Sodium hydroxide  
Minnesota: Sodium hydroxide  
Massachusetts RTK: Sodium hydroxide  
New Jersey: Sodium hydroxide  
Louisiana spill reporting: Sodium hydroxide  
TSCA 8(b) inventory: Water; Sodium hydroxide  
CERCLA: Hazardous substances.: Sodium hydroxide: 1000 lbs. (453.6 kg); |
| California Proposition 65 Warnings | California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. |
Sodium Hydroxide, 6.0N

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

Other Regulations

Other Classifications
WHMIS (Canada) CLASS E: Corrosive liquid.

DSCL (EEC) R34- Causes burns.

S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28- After contact with skin, wash immediately with plenty of water.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.)

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

National Fire Protection Association (U.S.A.)

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Specific hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Full suit.

Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Face shield.

Continued on Next Page
Section 16. Other Information

<table>
<thead>
<tr>
<th>MSDS Code</th>
<th>S392S</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Special Considerations</td>
<td>Not available.</td>
</tr>
</tbody>
</table>


CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.