Safety Data Sheet

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Sodium Hydroxide, 50% (w/w) (760 g/L), Purified Grade
Nitrogen Free - Suitable for Kjeldahl Nitrogen Analysis

Product Number: 7290
Other Identifying Product Numbers: 7290-1, 7290-15G, 7290-16, 7290-2.5, 7290-32, 7290-5, 7290-55, 7290-570, 7290-5HP

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company: Ricca Chemical Company
Address: 448 West Fork Drive
Arlington, TX 76012 USA
Telephone: 888-467-4222

1.4. Emergency Telephone Number (24 hr)

CHEMTREC (USA) 800-424-9300
CHEMTREC (International) 1+ 703-527-3887

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture (in accordance with OSHA HCS 29 CFR 1910.1200)

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
<th>Hazard Statement</th>
<th>Precautionary Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity - Oral</td>
<td>Category 4</td>
<td>H302</td>
<td>P264, P270, P301+P312, P330, P501</td>
</tr>
<tr>
<td>Eye Damage / Irritation</td>
<td>Category 1</td>
<td>H318</td>
<td>P280, P305+P351+P338, P310</td>
</tr>
<tr>
<td>Specific Target Organs/Systemic Toxicity Following Single Exposure</td>
<td>Category 1</td>
<td>H370</td>
<td>P260, P264, P270, P307+P311, P321, P405, P501</td>
</tr>
<tr>
<td>Corrosive to Metals</td>
<td>Category 1</td>
<td>H290</td>
<td>P234, P390, P406</td>
</tr>
<tr>
<td>Hazardous to the Aquatic Environment (Acute)</td>
<td>Category 3</td>
<td>H402</td>
<td>P273, P501</td>
</tr>
</tbody>
</table>
## Safety Data Sheet

### 2.2. GHS Label Elements

**Pictograms:**

![Pictogram 1](image1)

- **Signal Word:** Danger

**Hazard Statements:**

<table>
<thead>
<tr>
<th>Hazard Number</th>
<th>Hazard Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>H290</td>
<td>May be corrosive to metals.</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H370</td>
<td>Causes damage to organs.</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life.</td>
</tr>
</tbody>
</table>

**Precautionary Statements:**

<table>
<thead>
<tr>
<th>Precautionary Number</th>
<th>Precautionary Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>P234</td>
<td>Keep only in original container.</td>
</tr>
<tr>
<td>P260</td>
<td>Do not breathe dust, fumes or mist.</td>
</tr>
<tr>
<td>P264</td>
<td>Wash arms, hands and face thoroughly after handling.</td>
</tr>
<tr>
<td>P270</td>
<td>Do not eat, drink or smoke when using this product.</td>
</tr>
<tr>
<td>P273</td>
<td>Avoid release to the environment.</td>
</tr>
<tr>
<td>P280</td>
<td>Wear protective gloves and eye protection.</td>
</tr>
<tr>
<td>P301+P312</td>
<td>IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.</td>
</tr>
<tr>
<td>P301+P330+P331</td>
<td>IF SWALLOWED: rinse mouth. Do NOT induce vomiting.</td>
</tr>
<tr>
<td>P303+P361+P353</td>
<td>IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.</td>
</tr>
<tr>
<td>P305+P351+P338</td>
<td>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</td>
</tr>
<tr>
<td>P307+P311</td>
<td>IF exposed: Call a POISON CENTER or physician.</td>
</tr>
<tr>
<td>P310</td>
<td>Immediately call a POISON CENTER or physician.</td>
</tr>
<tr>
<td>P321</td>
<td>Specific treatment (Wash areas of contact with water immediately).</td>
</tr>
<tr>
<td>P330</td>
<td>Rinse mouth.</td>
</tr>
<tr>
<td>P363</td>
<td>Wash contaminated clothing before reuse.</td>
</tr>
<tr>
<td>P390</td>
<td>Absorb spillage to prevent material damage.</td>
</tr>
<tr>
<td>P405</td>
<td>Store locked up.</td>
</tr>
<tr>
<td>P406</td>
<td>Store in corrosive resistant container with a resistant inner liner.</td>
</tr>
<tr>
<td>P501</td>
<td>Dispose of contents in accordance with local, state, federal and international regulations.</td>
</tr>
</tbody>
</table>
Safety Data Sheet

2.3. WHMIS Classification

WHMIS classification is not included based on the recommended option (Option 4) found in the Canada Gazette Part II, Vol. 149, No.3, page 458

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Formula</th>
<th>Molecular Weight</th>
<th>CAS Number</th>
<th>Weight%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>H₂O</td>
<td>18.01 g/mol</td>
<td>7732-18-5</td>
<td>50.00%</td>
</tr>
<tr>
<td>Sodium Hydroxide</td>
<td>NaOH</td>
<td>39.99 g/mol</td>
<td>1310-73-2</td>
<td>50.00%</td>
</tr>
</tbody>
</table>

SECTION 4: First-Aid Measures

4.1. General First Aid Information

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Corrosive! Causes irritation and burns. Can cause burns that may lead to permanent impairment of vision, including blindness.

Inhalation: Not expected to require first aid. If necessary, remove to fresh air.

Skin Contact: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Causes severe burns.

Ingestion: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

4.2. Most Important Symptoms and Effects, Acute and Delayed

CAUTION! Corrosive. Causes severe burns. May be fatal if swallowed. Harmful if inhaled. Wash areas of contact with water for at least 15 minutes. Call a physician if irritation develops. If ingested, dilute with water and call a physician. Do not induce vomiting. For eyes, flush out with plenty of water for at least 15 minutes. Call a physician. Reacts violently with acids. EYE CONTACT: Corrosive! Causes irritation and burns. Can cause burns that may lead to permanent impairment of vision, including blindness. SKIN CONTACT: Causes severe burns. CHRONIC EFFECTS / CARCINOGENICITY: Repeated exposures to Sodium Hydroxide solutions has a destructive effect on tissue.

4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water immediately).

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use extinguishing media appropriate for surrounding fire.
Safety Data Sheet

5.2. Specific Hazards Arising from the Substance or Mixture
Not combustible. (solid)

5.3. Special Protective Equipment for Firefighters
Wear special protective clothing and positive pressure self-contained breathing apparatus. Butyl rubber, natural rubber, Neoprene, nitrile rubber, polyethylene, polyvinyl chloride, Teflon, Viton, or Saranex barrier recommended. (solid)

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures
Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials
Keep water away from release. Stop or control the leak, if this can be done without undue risk. Prompt cleanup and removal are necessary. Shovel into suitable dry container. Control runoff and isolate discharged material for proper disposal. (solid)

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions
Store in corrosive resistant container with a resistant inner liner. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Do not mix with acids.

SECTION 8: Exposure Controls / Personal Protection

8.1. Control Parameters

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Limit Type</th>
<th>Country</th>
<th>Exposure Limit</th>
<th>Information Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide (1310-73-2)</td>
<td>TWA</td>
<td>USA</td>
<td>2 mg/m³ TWA</td>
<td>U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)</td>
</tr>
<tr>
<td>Sodium Hydroxide (1310-73-2)</td>
<td>TLV-Ceiling</td>
<td>USA</td>
<td>2 mg/m³ Ceiling</td>
<td>ACGIH - Threshold Limit Values - Ceilings (TLV-C)</td>
</tr>
</tbody>
</table>

8.2. Exposure Controls

Engineering Controls: No specific controls are needed. Normal room ventilation is adequate.

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Wear protective gloves and eye protection. Chemical resistant gloves.

Eye Protection: Wear protective gloves and eye protection. Safety glasses or goggles.

8.3. Personal Protective Equipment
Wear protective gloves and eye protection. Normal room ventilation is adequate. Chemical resistant gloves. Safety glasses or goggles.
SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

- **Appearance:** Colorless liquid
- **Physical State:** Liquid
- **Odor:** None
- **Odor Threshold:** Data not available.
- **pH:** > 13
- **Melting/Freezing Point:** 12°C
- **Initial Boiling Point /Range:** Approximately 100°C - Approximately 100°C
- **Flash Point:** Data not available.
- **Evaporation Rate:** Data not available.
- **Flammability:** Data not available.
- **Flammability/Explosive Limits:** Data not available.
- **Vapor Pressure:** 13 mm Hg @ 60°C
- **Vapor Density:** Data not available.
- **Relative Density:** 1.52
- **Solubility:** Miscible
- **Partition Coefficient (n-Octanol/Water):** Data not available.
- **Auto-Ignition Temperature:** Data not available.
- **Decomposition Temperature:** Data not available.
- **Viscosity:** Data not available.
- **Explosive Properties:** Data not available.
- **Oxidizing Properties:** Data not available.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Keep only in original container. Acids, organic halogen compounds, metals such as aluminum, tin and zinc.

10.4. Hazardous Decomposition Products

Will not occur.
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SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:
Harmful if swallowed. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. Dispose of contents in accordance with local, state, federal and international regulations.

Acute Toxicity - Dermal Exposure:
Not applicable.

Acute Toxicity - Inhalation Exposure:
Not applicable.

Acute Toxicity - Other Information:
No LD50 (oral, rat) information available from "Registry of Toxic Effects of Chemical Substances". Irritation data: skin, rabbit: 500 mg/24H severe; eye, rabbit: 50 ug/24H severe. Investigated as a mutagen (Sodium Hydroxide).

Skin Corrosion and Irritation:
Causes severe skin burns and eye damage. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately 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 POISON CENTER or physician. Specific treatment (Wash areas of contact with water immediately). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Serious Eye Damage and Irritation:
Causes serious eye damage. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Respiratory Sensitization:
Not applicable.

Skin Sensitization:
Not applicable.

Germ Cell Mutagenicity:
Not applicable.

Carcinogenicity:
Not applicable.

Reproductive Toxicity:
Not applicable.

Specific Target Organ Toxicity from Single Exposure:
Causes damage to organs. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF exposed: Call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water immediately). Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.
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Specific Target Organ Toxicity from Repeated Exposure:
Not applicable.

Aspiration Hazard:
Not applicable.

Additional Toxicology Information:
Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity
Harmful to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.

12.2. Persistence and Degradability
Data not available.

12.3. Bioaccumulative Potential
Data not available.

12.4. Mobility in Soil
Data not available.

12.5. Other Adverse Ecological Effects
Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods
Data not available.

SECTION 14: Transportation Information

14.1. Transportation by Land - Department of Transportation (DOT, United States of America)

UN Number: UN1824
Proper Shipping Name: Sodium Hydroxide Solution
Hazard Class: 8
Packing Group: II
Hazard Placard Labels:

Product Number: 7290
14.2. Transportation by Air - International Air Transport Association (IATA)

- **UN Number:** UN1824
- **Proper Shipping Name:** Sodium Hydroxide Solution
- **Hazard Class:** 8
- **Packing Group:** II
- **Hazard Placard Labels:**
  - Corrosive

SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards
Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances
Not listed.

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals
- Sodium Hydroxide (CAS # 1310-73-2): 1000 lb final RQ; 454 kg final RQ

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)
Not listed.

15.5. Massachusetts Right-to-Know Substance List
- Sodium Hydroxide (CAS # 1310-73-2): Present

15.6. Pennsylvania Right-to-Know Hazardous Substances
- Sodium Hydroxide (CAS # 1310-73-2): Environmental hazard
- Sodium Hydroxide (CAS # 1310-73-2): Present
- Water (CAS # 7732-18-5): Present

15.7. New Jersey Worker and Community Right-to-Know Components
- Sodium Hydroxide (CAS # 1310-73-2): corrosive
- Sodium Hydroxide (CAS # 1310-73-2): sn 1706

15.8. California Proposition 65
Not listed.

15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)
- Sodium Hydroxide (CAS # 1310-73-2): Present
- Water (CAS # 7732-18-5): Present
15.10. United States of America Toxic Substances Control Act (TSCA) List
Sodium Hydroxide (CAS # 1310-73-2): Present
Water (CAS # 7732-18-5): Present

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS),
European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)
Not listed.

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. Causes damage to organs. Harmful to aquatic life.

Keep only in original container. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves and eye protection.

IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed: Call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water immediately). Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Store locked up. Store in corrosive resistant container with a resistant inner liner.

Dispose of contents in accordance with local, state, federal and international regulations.

16.2. Miscellaneous Hazard Classes

**Canadian Carcinogenicity Hazard Class:** Not Applicable.
**Physical Hazards Not Otherwise Classified (PHNOC):** Not Applicable.
**Health Hazards Not Otherwise Classified (HHNOC):** Not Applicable.
16.3. National Fire Protection Association (NFPA) Rating

Health: 3
Flammability: 0
Reactivity: 1
Special Hazard:

16.4. Document Revision

Last Revision Date: 5/4/2015

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.