Material Safety Data Sheet

**Section 1. Chemical Product and Company Identification**

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity</th>
<th>MF/DS</th>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>W2</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Common Name/Trade Name**: Sodium azide

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

**Commercial Name(s)**: Not available.

**Synonym**: Azide, sodium; Smite; Hydrazoic acid, sodium salt

**Chemical Name**: Sodium Azide

**Chemical Family**: Not available.

**Chemical Formula**: NaN3

**Supplier**: SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248

**IN CASE OF EMERGENCY**: CHEMTREC (24hr) 800-424-9300

**CALL**: (310) 516-8000

**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) Sodium azide</td>
<td>26628-22-8</td>
<td>0.29</td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Toxicological Data on Ingredients**

**Sodium azide**: ORAL (LD50): Acute: 27 mg/kg [Rat]. 27 mg/kg [Mouse]. DERMAL (LD50): Acute: 20 mg/kg [Rabbit].

**Section 3. Hazards Identification**

**Potential Acute Health Effects**: Very hazardous in case of skin contact (permeator), of ingestion. Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation. Severe over-exposure can result in death.

**Potential Chronic Health Effects**

**CARCINOGENIC EFFECTS**: Not available.

**MUTAGENIC EFFECTS**: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.

**TERATOGENIC EFFECTS**: Not available.

**DEVELOPMENTAL TOXICITY**: Not available.

Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Continued on Next Page
# Sodium Azide

## Section 4. First Aid Measures

| Eye Contact | Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention. |
| Skin Contact | In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention. |
| Serious Skin Contact | Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention. |
| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. |
| 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 | If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. |
| Serious Ingestion | Not available. |

## Section 5. Fire and Explosion Data

| Flammability of the Product | May be combustible at high temperature. |
| Auto-Ignition Temperature | Not available. |
| Flash Points | Not available. |
| Flammable Limits | Not available. |
| Products of Combustion | Some metallic oxides. |
| Fire Hazards in Presence of Various Substances | Slightly flammable to flammable in presence of open flames and sparks, of heat. |
| Fire Fighting Media and Instructions | SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet. |
| Special Remarks on Fire Hazards | COMBUSTIBLE. It may burn, but does not readily ignite. Not considered flammable unless heated above 300 deg. C. When heated to decomposition it emits very toxic fumes of nitrogen oxides and disodium oxide. |
| Special Remarks on Explosion Hazards | Carbon disulfide and aqueous solutions of metal azides interact to produce metal azidodithioformates most of which are explosive, with varying degrees of power and sensitivity to shock or heat /metal azides/. Nitrogen-diluted bromine vapor passed over silver or sodium azide formed bromine azide, and often caused explosions/metal azides/. REACTION OF SODIUM AZIDE AND CHROMYL CHLORIDE IS AN EXPLOSIVE ONE. Brass plates exposed to sodium azide solution during several months in soil percolation tests and then dried caused explosions, due to formation of copper and/or zinc azides. [Peer Reviewed] [Bretherick, L. Handbook of Reactive Chemical Hazards. 4th ed. Boston, MA: Butterworth-Heinemann Ltd., 1990 1361. During repairs to a metal thermostat bath in which sodium azide soln had been used as a preservative, a violent explosion occurred. [Peer Reviewed] [Bretherick, L. Handbook of Reactive Chemical Hazards. 4th ed. Boston, MA: Butterworth-Heinemann Ltd., 1990 1361] |
Section 6. Accidental Release Measures

**Small Spill**
Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill**
Poisonous solid.
Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. 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**
Keep away from heat. Keep away from sources of ignition. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as metals, acids, moisture.

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

Section 8. Exposure Controls/Personal Protection

**Engineering Controls**
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection**
Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill**
Splash goggles. Full suit. Dust 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**
TWA: 0.29 (mg/m³) from ACGIH (TLV) [United States] Inhalation
CEIL: 0.3 (mg/m³) from NIOSH [United States] SKIN
CEIL: 0.1 (ppm) from NIOSH [United States] SKIN
CEIL: 0.1 (ppm) from OSHA (PEL) [United States] SKIN

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

**Physical state and appearance**
Solid.

**Odor**
Odorless.

**Taste**
Not available.

**Color**
Not available.

**Molecular Weight**
65.02 g/mole

**pH (1% soln/water)**
Not available.

**Boiling Point**
Not available.

**Melting Point**
Decomposition temperature: 275°C (527°F)

**Critical Temperature**
Not available.

**Specific Gravity**
1.846 (Water = 1)

**Vapor Pressure**
Not applicable.

**Vapor Density**
Not available.

**Volutility**
Not available.

**Odor Threshold**
Not available.

**Water/Oil Dist. Coeff.**
Not available.

**Ionicity (in Water)**
Not available.

**Dispersion Properties**
is not dispersed in diethyl ether. See solubility in water.

Continued on Next Page
### Sodium azide

**Solubility**
Soluble in cold water.
Slightly soluble in ethanol.
Soluble in liquid ammonia.
Solubility in Water: 40.16% @ 10 deg. C; 41.7% @ 17 deg. C; 41% @ 15 deg. C.

### Section 10. Stability and Reactivity Data

<table>
<thead>
<tr>
<th>Stability</th>
<th>Unstable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instability Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Conditions of Instability</td>
<td>Excess heat (heat over 300 degree C., incompatible materials, water/moisture</td>
</tr>
</tbody>
</table>
| Incompatibility with various substances | Highly reactive with moisture.  
Reactive with metals, acids. |
| Corrosivity        | Extremely corrosive in presence of aluminum.  
Corrosive in presence of copper.  
Non-corrosive in presence of glass. |
| Special Remarks on Reactivity | Decomposes @ 275 C to sodium and nitrogen.  
Sodium Azide reacts vigorously with water.  
Incompatible with Barium carbonate, Trifluoroacryloyl fluoride, carbon disulfide, nitrogen-diluted bromine vapor, with metals such as brass, lead, silver, mercury, and copper.  
Chromyl chloride, Dimethyl sulfate,  
Dibromomalononitrile, Sulfuric acid, ammonium chloride + trichloroacetonitrile, Phosgene, Cyanuric chloride,  
2,5-Dinitro-3-methylbenzoic acid + Oleum.  
It is readily decomposed by irradiation.  
MIXTURE OF SODIUM AZIDE & BENZOYL CHLORIDE REACTS SPONTANEOUSLY WITH EVOLUTION OF HEAT IN A POTASSIUM HYDROXIDE SOLUTION.  
THE REACTION OF SODIUM AZIDE & STRONG NITRIC ACID IS ENERGETIC. |
| Special Remarks on Corrosivity | Moderate corrosive reaction on lead. |
| Polymerization     | Will not occur. |

### Section 11. Toxicological Information

<table>
<thead>
<tr>
<th>Routes of Entry</th>
<th>Absorbed through skin. Dermal contact. Inhalation. Ingestion.</th>
</tr>
</thead>
</table>
| Toxicity to Animals | Acute oral toxicity (LD50): 27 mg/kg [Mouse].  
Acute dermal toxicity (LD50): 20 mg/kg [Rabbit]. |
| Chronic Effects on Humans | MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. |
| Other Toxic Effects on Humans | Very hazardous in case of skin contact (permeator), of ingestion.  
Hazardous in case of skin contact (irritant), of inhalation. |
| Special Remarks on Toxicity to Animals | Not available. |
| Special Remarks on Chronic Effects on Humans | May affect genetic material (mutagenic) |
| Special Remarks on other Toxic Effects on Humans | Acute Potential Health Effects:  
Skin: Causes skin irritation. It is absorbed through the skin. It is toxic if absorbed through the skin and can cause system effects similar to that of ingestion.  
Eyes: Causes eye irritation. Exposure to hydrazoic acid vapors evolved from Sodium Azide can cause irritation of the eyes.  
Inhalation: Inhalation of fumes has been chiefly associated with hypotension, headache, coughing, bronchial and pulmonary irritation, and reactive airway dysfunction syndrome.  
Ingestion: May be fatal if swallowed. Can cause abdominal pain, nausea, vomiting, hypermotility, diarrhea, chest pain, coughing, anorexia, excessive thirst and a general feeling of apprehension and unwellness. It is a rapidly acting vasodilator. It can also affect behavior/central nervous system/nervous system (headaches, irritability, muscle weakness, flaccidity, seizures, convulsions, general anesthetic, somnolence, central nervous system depression, dizziness, restlessness, ataxia, unconsciousness, syncope, collapse, coma), cardiovascular system (hypotension, tachycardia, bradycardia, angina, EKG changes, increase in pulse rate, dysrhythmia, cardiomyopathy, myocardial ischemia, vascular congestion), metabolism (profound metabolic acidosis, lactic acidosis), blood (leukocytosis), eyes/vision (mydriasis, blurred vision, leisons in the optic nerve), respiration (apnea, dyspnea, hyperventilation, pulmonary edema). It may also affect the brain (increased intracranial pressure) |
Chronic Potential Health Effects:
Ingestion: Prolonged or repeated ingestion may affect the kidneys, liver, cardiovascular system, behavior/central nervous system/nervous system, respiration, and cause symptoms similar to that of ingestion. It may also cause weight loss.
Inhalation: Prolonged or repeated inhalation can irritate the lungs, may cause bronchitis to develop with cough, phlegm and/or shortness of breath.

Section 12. Ecological Information

Ecotoxicity
Not available.

BOD5 and COD
Not available.

Products of Biodegradation
Possibly hazardous short/long term degradation products are to be expected.

Toxicity of the Products of Biodegradation
The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation
Not available.

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

DOT Classification
CLASS 6.1: Poisonous material.

Identification
UNNA: 1687 : Sodium azide  PG: II

Special Provisions for Transport
Not available.

DOT (Pictograms)

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations
Connecticut hazardous material survey: Sodium azide
Illinois toxic substances disclosure to employee act: Sodium azide
Illinois chemical safety act: Sodium azide
New York release reporting list: Sodium azide
Rhode Island RTK hazardous substances: Sodium azide
Pennsylvania RTK: Sodium azide
Minnesota: Sodium azide
Massachusetts RTK: Sodium azide
Massachusetts spill list: Sodium azide
New Jersey: Sodium azide
New Jersey spill list: Sodium azide
Louisiana RTK reporting list: Sodium azide
Louisiana spill reporting: Sodium azide
California Director's List of Hazardous Substances: Sodium azide
TSCA 8(b) inventory: Sodium azide
SARA 302/304/311/312 extremely hazardous substances: Sodium azide
SARA 313 toxic chemical notification and release reporting: Sodium azide
CERCLA: Hazardous substances: Sodium azide: 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.
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

- EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 247-852-1).
- Canada: Listed on Canadian Domestic Substance List (DSL).
- China: Listed on National Inventory.
- Japan: Listed on National Inventory (ENCS).
- Korea: Listed on National Inventory (KECI).
- Philippines: Listed on National Inventory (PICCS).
- Australia: Listed on AICS.

### Other Classifications

<table>
<thead>
<tr>
<th>Classification</th>
<th>WHMIS (Canada)</th>
<th>EINECS (Europe)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Hazard</td>
<td>3</td>
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<tr>
<td>Fire Hazard</td>
<td>1</td>
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<tr>
<td>Reactivity</td>
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<td></td>
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<tr>
<td>Personal Protection</td>
<td>E</td>
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</tbody>
</table>

### HMIS (U.S.A.)

- Health Hazard: 3
- Flammability:
- Reactivity:
- Specific hazard:

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

- Health: 3
- Flammability:
- Reactivity:
- Specific hazard:

### Protective Equipment

- Gloves.
- Lab coat.
- Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
- Splash goggles.
### Sodium azide

**Section 16. Other Information**

<table>
<thead>
<tr>
<th>MSDS Code</th>
<th>S3620</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Special Considerations</td>
<td>Uses: In preparation of hydrazoic acid, lead azide and pure sodium; herbicide, fungicide, nematocide; soil fumigant; broad-spectrum weed control; broad spectrum biocide; preservative for laboratory reagents.</td>
</tr>
</tbody>
</table>

Validated by Sonia Owen on 2/8/2011.

Verified by Sonia Owen.


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.