# 1. Identification

**Product Name**  
Sodium azide

**Cat No.**  
S227I-1; S227I-25; S227I-100; S227I-500; S227I-500LC

**CAS-No**  
26628-22-8

**Synonyms**  
Sodium salt of hydrazoic acid; Smite

**Recommended Use**  
Laboratory chemicals.

**Uses advised against**  
Food, drug, pesticide or biocidal product use

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## 2. Hazard(s) identification

**Classification**  
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>Category 1</td>
</tr>
<tr>
<td>Acute Inhalation Toxicity - Dusts and Mists</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity - (repeated exposure)</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

**Target Organs**  
Central nervous system (CNS), Cardiovascular system, Liver, Kidney, Heart, spleen.

**Label Elements**

**Signal Word**  
Danger

**Hazard Statements**

Fatal if swallowed  
Fatal in contact with skin  
Fatal if inhaled  
May cause damage to organs through prolonged or repeated exposure
Precautionary Statements

Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not get in eyes, on skin, or on clothing
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection

Response
Get medical attention/advice if you feel unwell

Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician

Skin
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN: Gently wash with plenty of soap and water
Remove/Take off immediately all contaminated clothing
Wash contaminated clothing before reuse

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Very toxic to aquatic life with long lasting effects
Contact with acids liberates very toxic gas

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### 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>26628-22-8</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

---

### 4. First-aid measures

**General Advice**
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Eye Contact**
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

**Skin Contact**
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Inhalation**
Move to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth
method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion
Do not induce vomiting. Call a physician or Poison Control Center immediately.

Most important symptoms and effects
None reasonably foreseeable.

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media
Do not use a solid water stream as it may scatter and spread fire

Flash Point
No information available
Method -
No information available

Autoignition Temperature
Not applicable

Explosion Limits
Upper
No data available
Lower
No data available

Sensitivity to Mechanical Impact
No information available
Sensitivity to Static Discharge
No information available

Specific Hazards Arising from the Chemical
In the event of fire, cool tanks with water spray. Containers may explode when heated or if contaminated with water. Thermal decomposition can lead to release of irritating gases and vapors. Runoff to sewer may create fire or explosion hazard. Flammable/toxic gases may accumulate in confined areas (basements, tanks, hopper/tank cars etc.). Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous Combustion Products
Nitrogen oxides (NOx) Sodium oxides

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA
Health Flammability Instability Physical hazards
4 1 2 N/A

6. Accidental release measures

Personal Precautions
Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental Precautions
Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods for Containment and Clean Up
Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

7. Handling and storage

Handling
Wear personal protective equipment. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest.

Storage
Keep in a dry, cool and well-ventilated place. Keep container tightly closed.
8. Exposure controls / personal protection

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Mexico OEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>Ceiling: 0.29 mg/m³</td>
<td>Skin</td>
<td>Ceiling: 0.1 ppm</td>
<td>Ceiling: 0.29 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Ceiling: 0.11 ppm</td>
<td>(Vacated) Ceiling: 0.1 ppm</td>
<td>Ceiling: 0.3 mg/m³</td>
<td>Ceiling: 0.11 ppm</td>
</tr>
</tbody>
</table>

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment.

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Long sleeved clothing.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Powder Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>10  1M aq.sol</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>275 °C / 527 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>300 °C / 572 °F @ 760 mmHg</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td></td>
</tr>
<tr>
<td>Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.850</td>
</tr>
<tr>
<td>Solubility</td>
<td>420 g/L (17°C)</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>&gt; 275°C</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>N3 Na</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>65.01</td>
</tr>
</tbody>
</table>

10. Stability and reactivity
Sodium azide

Revision Date 25-Apr-2019

Reactive Hazard
- Yes

Stability
- Risk of explosion by shock, friction, fire or other sources of ignition.

Conditions to Avoid

Incompatible Materials
- Acids, Oxidizing agents, Peroxides, Acid chlorides, Metals

Hazardous Decomposition Products
- Nitrogen oxides (NOx), Sodium oxides

Hazardous Polymerization
- Hazardous polymerization does not occur.

Hazardous Reactions
- None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>27 mg/kg (Rat)</td>
<td>20 mg/kg (Rabbit)</td>
<td>0.054-0.52 mg/L (dust)</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products
- No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation
- May cause eye, skin, and respiratory tract irritation

Sensitization
- No information available

Carcinogenicity
- The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>26628-22-8</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects
- Mutagenic effects have occurred in experimental animals.

Reproductive Effects
- No information available.

Developmental Effects
- No information available.

Teratogenicity
- No information available.

STOT - single exposure
- None known

STOT - repeated exposure
- Central nervous system (CNS) Cardiovascular system Liver Kidney Heart spleen

Aspiration hazard
- No information available

Symptoms / effects, both acute and delayed
- No information available

Endocrine Disruptor Information
- No information available

Other Adverse Effects
- Tumorigenic effects have been reported in experimental animals.

12. Ecological information

Ecotoxicity
- The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>Not listed</td>
<td>LC50: = 5.46 mg/L, 96h flow-through (Pimephales promelas)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: = 0.7 mg/L, 96h (Lepomis macrochirus)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: = 0.8 mg/L, 96h (Oncorhynchus mykiss)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Persistence and Degradability**
Soluble in water. Persistence is unlikely based on information available.

**Bioaccumulation/Accumulation**
No information available.

**Mobility**
Will likely be mobile in the environment due to its water solubility.

### 13. Disposal considerations

**Waste Disposal Methods**
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

**DOT**

- **UN-No**: UN1687
- **Proper Shipping Name**: SODIUM AZIDE
- **Hazard Class**: 6.1
- **Packing Group**: II

**TDG**

- **UN-No**: UN1687
- **Proper Shipping Name**: SODIUM AZIDE
- **Hazard Class**: 6.1
- **Packing Group**: II

**IATA**

- **UN-No**: UN1687
- **Proper Shipping Name**: SODIUM AZIDE
- **Hazard Class**: 6.1
- **Packing Group**: II

**IMDG/IMO**

- **UN-No**: UN1687
- **Proper Shipping Name**: SODIUM AZIDE
- **Hazard Class**: 6.1
- **Packing Group**: II

### 15. Regulatory information

#### United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active/Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>26628-22-8</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
</tbody>
</table>

**Legend:**
- **TSCA**: Toxic Substances Control Act, (40 CFR Part 710)
- **X**: Listed
- **-**: Not Listed

**TSCA 12(b)**
Not applicable

**International Inventories**
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).
### Sodium azide

#### Component | CAS-No | DSL | NDSL | EINECS | PICCS | ENCS | AICS | IECSC | KECL
---|---|---|---|---|---|---|---|---|---
Sodium azide | 26628-22-8 | X | - | 247-852-1 | X | X | X | X | KE-31357

#### U.S. Federal Regulations

##### SARA 313

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>26628-22-8</td>
<td>&gt;95</td>
<td>1.0</td>
</tr>
</tbody>
</table>

##### SARA 311/312 Hazard Categories

See section 2 for more information

- **CWA (Clean Water Act)**
  - Not applicable

- **Clean Air Act**
  - Not applicable

- **OSHA - Occupational Safety and Health Administration**
  - Not applicable

##### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>1000 lb</td>
<td>1000 lb</td>
</tr>
</tbody>
</table>

##### California Proposition 65

This product does not contain any Proposition 65 chemicals

##### U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

##### U.S. Department of Transportation

- **Reportable Quantity (RQ):**
  - N
- **DOT Marine Pollutant:**
  - N
- **DOT Severe Marine Pollutant:**
  - N

##### U.S. Department of Homeland Security

This product contains the following DHS chemicals:

- **Legend** - STQs = Screening Threshold Quantities, APA = A placarded amount

<table>
<thead>
<tr>
<th>Component</th>
<th>DHS Chemical Facility Anti-Terrorism Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>Theft STQs - 400lb</td>
</tr>
</tbody>
</table>

##### Other International Regulations

- **Mexico - Grade:**
  - No information available

### 16. Other information

- **Prepared By:**
  - Regulatory Affairs
  - Thermo Fisher Scientific
  - Email: EMSDS.RA@thermofisher.com

- **Creation Date:**
  - 03-Dec-2010

- **Revision Date:**
  - 25-Apr-2019

- **Print Date:**
  - 25-Apr-2019

- **Revision Summary:**
  - This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the
date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage,
transportation, disposal and release and is not to be considered a warranty or quality specification. The information
relates only to the specific material designated and may not be valid for such material used in combination with any other
materials or in any process, unless specified in the text

End of SDS