

# **SLI Technologies, Inc**

Santa Rosa Industrial Park

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Milton, FL 32583  
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Version 1.4

Slitech-amines.com  
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## **SAFETY DATA SHEET**

### **1. Product and Company Identification**

#### **1.1. Product Identifiers**

Product name: Spermine, 98%  
Product number: 1212053  
Brand: SLI Technologies, Inc.  
CAS #: 71-44-3

#### **1.2. Relevant identified uses of the substance or mixture and uses advised against**

Identified uses include laboratory chemicals, synthesis of substances, scientific research and development.

#### **1.3. Details of the supplier of the safety data sheet**

Company: SLI Technologies, Inc  
8119 Opportunity Dr  
Milton, FL 32583  
USA  
Telephone: (850) 626-6290

#### **1.4. Emergency telephone number**

Emergency Phone: (850) 336-0995

### **2. Hazards Identification**

#### **2.1. Classification of the substance or mixture**

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Skin corrosion (Category 1B), H314  
Serious eye damage (Category 1), H318

#### **2.2. GHS Label elements, including precautionary statements**



Pictogram:

Signal Word: **Danger**

Hazard Statements:

H314 Causes severe skin burns and eye damage.

Precautionary statements:

P260 Do not breathe dust or mist.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/clothing/eye protection/face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340+P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.  
 P305+P351+P338+P310 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/doctor.  
 P363 Wash contaminated clothing before reuse.  
 P405 Store locked up.  
 P501 Dispose of contents/container to an approved waste disposal plant.

### 2.3. Hazards not otherwise classified (HNOC) or not covered by GHS

None

### 3. Composition/Information on Ingredients

Chemical Name:	N,N'-Bis (3-Aminopropyl)-1,4-Butanediamine
Common name/synonyms:	Spermine N,N'-Bis (3-Aminopropyl)-1,4-Tetramethylenediamine 1,4-Bis (Aminopropyl) Butanediamine 1,4-Diaminobutane, N,N'-Bis (3-Aminopropyl) Diaminopropyltetramethylenediamine 4,9-Diaza-1,12-Dodecanediamine Gerontine Musculamine Neuridine 1,5,10,14-Tetrazatetradecane
CAS #:	71-44-3
MF:	C10H26N4
MW:	202.34
EC No:	200-754-2

### 4. First Aid Measures

#### 4.1. Description of first aid measures

##### General

Consult a physician. Show this safety data sheet to the attending doctor. Move out of dangerous area.

##### If inhaled

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

##### In case of skin contact

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

##### In case of eye contact

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

##### If swallowed

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately. Do not induce vomiting.

## **5. Fire Fighting Measures**

### **5.1. Flash Point**

110°C (230°F), closed cup.

### **5.2. Special hazards arising from substance**

Carbon oxides, nitrogen oxides (NO<sub>x</sub>).

### **5.3. Extinguishing Media**

Water spray, alcohol resistant foam, carbon dioxide, or dry chemical powder.

### **5.4. Special Firefighting Procedures**

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

### **5.5. Unusual Fire and Explosion Hazards**

Emits toxic fumes under fire conditions.

## **6. Accidental Release Measures**

### **6.1. Personal precautions, protective equipment, and emergency procedures**

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Ventilate area and wash spill site after material pick up is complete. Evacuate area.

### **6.2. Environmental precautions**

Do not let product enter drains.

### **6.3. Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### **6.4. Reference to other sections**

See section 8 for personal protection.

See section 13 for disposal.

## **7. Handling and Storage**

### **7.1. Precautions for safe handling**

Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust can form. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

### **7.2. Conditions for safe storage, including any incompatibilities**

Keep container tightly closed in a dry and well-ventilated place. Hygroscopic, store under inert gas.

Recommended storage temperature: 2-8°C.

Storage class: 8B: Non-combustible, corrosive hazardous material

### **7.3. Specific end uses**

None other than those mentioned in section 1.2.

## **8. Exposure Controls/Personal Protection**

### **8.1. Control parameters**

**Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

### **8.2. Exposure controls**

**Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practices. Use only in a chemical fume hood. Avoid prolonged or repeated exposure.

#### **Personal protective equipment**

##### **Eye/face protection**

Use compatible chemical-resistant gloves, face shields, and chemical safety goggles certified by NIOSH (US) or EU 166(EU).

##### **Skin protection**

Handle with gloves. Use proper glove removal technique. Dispose of contaminated gloves. Wash and dry hands.

##### **Body protection**

Select according to concentration and amount of substance. Wash contaminated clothing before reuse. Dispose of contaminated shoes.

##### **Respiratory protection**

Use appropriate respirators as approved under NIOSH (US) or EU 166(EU).

##### **Control of environmental exposure**

Do not let product enter drains.

## **9. Physical and Chemical Properties**

### **9.1. Physical and chemical properties**

Appearance:	Form: solid Color: clean, white to off-white
Odor:	No data available
Odor threshold:	No data available
Boiling point:	220°C/40 mm Hg 150°C/5 mm Hg
Melting point:	28-30°C
Flash Point:	>230°F (>110°C)
Specific Gravity:	0.937
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
pH:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Partition coefficient n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available

## **10. Stability and Reactivity**

### **10.1. Reactivity**

No data available.

### **10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

No data available.

**10.4. Conditions to avoid**

Absorbs CO<sub>2</sub> from air.

**10.5. Incompatibilities**

Sensitive to moisture

Acids

Acid chlorides

Acid anhydrides

Oxidizing agents

**10.6. Hazardous Combustion or Decomposition Products**

Thermal decomposition may produce carbon monoxide, carbon dioxide, and nitrogen oxides.

**10.7. Hazardous Polymerization**

Will not occur.

**11. Toxicological Information****11.1. Acute Toxicity**

Inhalation: No data available.

Dermal: No data available.

IPR-RAT LD50: 33 mg/kg: lungs, thorax or respiration: other changes. Kidney, ureter, bladder: changes in tubules (including acute renal failure, acute tubular necrosis).

Nutritional and gross metabolic: dehydration.

**11.2. Exposure/Symptoms**

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

**11.3. Skin corrosion/irritation**

Causes burns. May be harmful if absorbed through the skin.

**11.4. Respiratory/Ingestion**

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if swallowed. Inhalation may result in spasm, inflammation, and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

**11.5. Additional Information**

RTECS: EJ175000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Toxicity Data:

IPR-RAT LD50: 33 mg/kg

TXAPA9 88, 433, 1987

IVN-RAT LD50: 65 mg/kg

AIPTAK 165, 374, 1967

IVN-MUS LD50: 56 mg/kg

CSLNX\* NX#00641

Target Organ Data:

Behavioral (somnolence)

Behavioral (convulsions or effect on seizure threshold)

Behavioral (change in motor activity)  
Lungs, thorax, or respiration (dyspnea)  
Lungs, thorax, or respiration (other changes)  
Kidney, ureter, bladder (changes in tubules)  
Nutritional and gross metabolic (dehydration)  
Nutritional and gross metabolic (body temperature decrease)

#### **11.6. Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen.

### **12. Ecological Information**

#### **12.1. Toxicity**

No data available.

#### **12.2. Persistence and degradability**

No data available.

#### **12.3. Bioaccumulative potential**

No data available.

#### **12.4. Mobility in soil**

No data available.

#### **12.5. Results of PBT and vPvB assessment**

Assessments not available/not required or conducted.

#### **12.6. Other adverse effects**

No data available.

### **13. Disposal Considerations**

#### **13.1. Waste treatment methods**

##### **Product**

Contact a licensed professional waste disposal service to dispose of this material.

Observe all federal, state, and local environmental regulations.

##### **Contaminated packaging**

Dispose of as unused product.

### **14. Transport Information**

#### **DOT (US)**

Proper Shipping Name: Amines, solid, corrosive, n.o.s. (Spermine)

UN Number: 3259

Hazard Class: 8

Packing Group: II

Poison inhalation hazard: no

#### **IATA**

Proper Shipping Name: Amines, solid, corrosive, n.o.s. (Spermine)

UN Number: 3259

Hazard Class: 8  
Packing Group: II

IMDG

Proper Shipping Name: Polyamines, solid, corrosive, n.o.s. (4,9-Diazadodecamethylenediamine)

UN Number: 3259

Hazard Class: 8

Packing Group: II

## 15. Regulatory Information

### 15.1. European Information

Corrosive

R 34

Causes burns

S 26

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39

Wear suitable protective clothing, gloves, and eye/face protection.

S 45

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### 15.2. Reviews, Standards, and Regulations

SARA 302: Not subject to reporting requirements.

SARA 313: Does not exceed threshold.

SARA 311/313 Hazards: Acute health hazard.

Massachusetts Right to Know Components: No components are subject to the Act.

Pennsylvania Right to Know Components: 4,9-

Diazoniadodecamethylenediammonium; CAS #71-44-3

New Jersey Right to Know Components: 4,9-

Diazoniadodecamethylenediammonium; CAS #71-44-3

California Prop 65 Components: Does not contain chemicals known to the state to cause cancer, birth defects, or any other reproductive harm.

## 16. Other Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This document does not guarantee the properties of the product. SLI Technologies, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product.