

SLI Technologies, Inc

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Updated 180227
Version 1.2

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MATERIAL SAFETY DATA SHEET

Section 1. Chemical Identification

Name: Spermine Tetrahydrochloride

Section 2. Composition/Information on Ingredients

CAS #: 306-67-2

MF: C10H26N4·4HCl

Synonyms:

1,4-Bis (aminopropyl) butanediamine tetrahydrochloride

Gerontine tetrahydrochloride

Musculamine tetrahydrochloride

Neuridine tetrahydrochloride

Spermine tetrahydrochloride

Section 3. Hazards Identification

Emergency Overview: 24 Hour Telephone 850-336-0995

Irritant

Irritating to eyes, respiratory system, and skin

HMIS Rating:

Health: 1

Flammability: 0

Reactivity: 0

NFPA Ratings:

Flammability: 0

Reactivity: 0

For additional information on toxicity, please refer to Section 11.

Section 4. First Aid Measures:

If swallowed, wash out mouth with water provided person is conscious.

Call a physician immediately.

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

If breathing is difficult, give oxygen. Call a physician.

In case of skin contact, immediately wash skin with soap and copious amounts of water. Call a physician.

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

Section 5. Fire Fighting Measures

Extinguishing Media:

Water spray, carbon dioxide, dry chemical powder, or appropriate foam.

Special Firefighting Procedures:

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

Specific Hazard(s):

Emits toxic fumes under fire conditions.

Exposure Hazard(s):

Material
Irritant

Section 6. Accidental Release Measures:

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

Sweep up, place in a bag, and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pick-up is complete.

Section 7. Handling and Storage:

User Exposure:

Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage:

Suitable
Keep tightly closed. Refrigerate.

Section 8. Exposure Controls/Personal Protection

Engineering Controls:

Safety shower and eye bath.
Mechanical exhaust required.

Personal Protective Equipment:

NIOSH/MSHA-approved respirator.
Compatible chemical-resistant gloves.
Chemical safety goggles.
Suitable laboratory apron.

General Hygiene Measures:

Wash thoroughly after handling.

Section 9. Physical and Chemical Properties

Appearance:

Color: White Form: Powder Odor: Pungent

Molecular Weight:

348.19 AMU

Physical Properties:

pH 5.0 – 7.5
Solubility in Water 1 M in H₂O, 20C, complete, colorless to light yellow

Section 10. Stability and Reactivity

Stability:

Stable.

Materials to Avoid:

Strong oxidizing agents

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen chloride gas

Hazardous Polymerization:

Will not occur

Section 11. Toxicological Information

Acute Effects:

Skin Contact:

Causes skin irritation.

Eye Contact:

Causes eye irritation.

Inhalation:

Material is irritating to mucous membranes and upper respiratory tract.

Multiple Routes:

May be harmful by inhalation, ingestion, or skin absorption.

Signs and Symptoms of Exposure:

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

Toxicity Data:

Intraperitoneal – Mouse: 370 MG/KG (LD50)

Remarks: Behavioral; convulsions or effect on seizure threshold.

Behavioral: Change in motor activity (specific assay).

Lungs, Thorax, or Respiration: Other changes.

Chronic Exposure – Mutagen

<u>Species</u>	<u>Dose</u>	<u>Cell Type</u>	<u>Mutation Test</u>
Human	2 MMOL/L	HeLa cell	Cytogenetic analysis
Mammal	16700 NMOL/L	lymphocyte	DNA

Section 12. Disposal Considerations

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Observe all federal, state, and local environmental regulations.

Section 13. Transport Information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Proper Shipping Name: None

Non-Hazardous for Air Transport: This substance is considered to be non-hazardous for air transport.

Contact SLI Technologies, Inc., for more transportation information.

Section 14. Regulatory Information

US Classification and Label Text:

Indication of Danger:

Irritant

Risk Statements:

Irritating to eyes, respiratory system, and skin.

Safety Statements:

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

United States Regulatory Information:

SARA 313 Listed: No

TSCA Inventory Item: Yes

Section 15. 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. SLI Technologies, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product.