



苏州麦轮生物科技有限公司  
Suzhou MyLand Pharm & Nutrition Inc.

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## MATERIAL SAFETY DATA SHEET (MSDS)

### 1. Identification

#### 1.1. GHS Product identifier

Product name Spermine Tetrahydrochloride

#### 1.2. Other means of identification

Product number -

Other names Spermine 4HCL; N,N'-Bis(3-aminopropyl)-1,4-butanediamine Tetrahydrochloride

#### 1.3. Recommended use of the chemical and restrictions on use

Identified uses Scientific research uses.

Uses advised against no data available

#### 1.4. Supplier's details

Company SUZHOU MYLAND PHARM & NUTRITION INC.

Address No.208 Chaoqing Office Tower, 262 Dongping Road,  
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### 2. Hazard identification

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

Not classified.

#### 2.2. GHS label elements, including precautionary statements

Pictogram(s) no data available

Signal word no data available

Hazard statement(s) no data available

Precautionary statement(s)

Prevention no data available

Response no data available

Storage no data available

Disposal no data available

#### 2.3. Other hazards which do not result in classification

no data available

### 3. Composition/information on ingredients

#### 3.1. Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Spermine Tetrahydrochloride	Spermine 4HCL; N,N'-Bis(3-aminopropyl)-1,4-butanediamine Tetrahydrochloride	306-67-2	206-189-8	100%

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## 4. First-aid measures

### 4.1. Description of necessary first-aid measures

#### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

#### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

#### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

#### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

### 4.2. Most important symptoms/effects, acute and delayed

no data available

### 4.3. Indication of immediate medical attention and special treatment needed, if necessary

no data available

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## 5. Fire-fighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

### 5.2. Specific hazards arising from the chemical

no data available

### 5.3. Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

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## 6. Accidental release measures

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

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### 6.2. Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

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

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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## 7. Handling and storage

### 7.1. Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

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

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

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## 8. Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational Exposure limit values

no data available

#### Biological limit values

no data available

### 8.2. Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### 8.3. Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flare resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

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## 9. Physical and chemical properties

Physical state	White to off-white powder
Odour	no data available
Melting point	no data available
Boiling point or initial boiling point and boiling range	no data available
Flammability	no data available
Lower and upper explosion limit / flammability limit	no data available
Flash point	no data available
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	no data available
Partition coefficient n-octanol/water	no data available
Vapour pressure	no data available
Density and/or relative density	no data available
Relative vapour density	no data available
Particle characteristics	no data available

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## 10. Stability and reactivity

### 10.1. Reactivity

no data available

### 10.2. Chemical stability

no data available

### 10.3. Possibility of hazardous reactions

no data available

**10.4. Conditions to avoid**

no data available

**10.5. Incompatible materials**

no data available

**10.6. Hazardous decomposition products**

no data available

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## 11. Toxicological information

**Acute toxicity**

- Oral: no data available
- Inhalation: no data available
- Dermal: no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

no data available

**STOT-repeated exposure**

no data available

**Aspiration hazard**

no data available

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## 12. Ecological information

**12.1. Toxicity**

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: 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. Other adverse effects**

no data available

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## 13. Disposal considerations

**13.1. Disposal methods**

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

**Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## 14. Transport information

### 14.1. UN Number

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.  
(For reference only, please check.) (For reference only, please check.) (For reference only, please check.)

### 14.2. UN Proper Shipping Name

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.  
(For reference only, please check.) (For reference only, please check.) (For reference only, please check.)

### 14.3. Transport hazard class(es)

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.  
(For reference only, please check.) (For reference only, please check.) (For reference only, please check.)

### 14.4. Packing group, if applicable

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.  
(For reference only, please check.) (For reference only, please check.) (For reference only, please check.)

### 14.5. Environmental hazards

ADR/RID: No IMDG: No IATA: No

### 14.6. Special precautions for user

no data available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

## 15. Regulatory information

### 15.1. Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Spermine Tetrahydrochloride	Spermine 4HCL; N,N'-Bis(3-aminopropyl)-1,4-butanediamine Tetrahydrochloride	306-67-2	206-189-8
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.

<b>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</b>	Not Listed.
<b>Vietnam National Chemical Inventory</b>	Not Listed.
<b>Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)</b>	Listed.
<b>Korea Existing Chemicals List (KECL)</b>	Not Listed.

## **16. Other information**

### **Further information**

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