



# SAFETY DATA SHEET

[Required under safety and health regulations for shipping and handling]

Version: 2018

Date Updated: March 27, 2018

## SECTION 1. ----- PRODUCT AND COMPANY IDENTIFICATION-----

**Product Name** Spermine tetrahydrochloride  
**Product Code(s)** SB0902  
**Recommended Use** For Laboratory Research Use Only  
Not for Human or Animal Drug Use

**Supplier** Bio Basic Inc.  
**Address** 20 Konrad Crescent, Markham, Ontario,  
Canada, L3R 8T4

**Telephone** (905) 474 4493  
**Fax** (905) 474 5794  
**For Chemical Emergency Phone#** (416) 995 9730

## SECTION 2. ----- HAZARDS IDENTIFICATION -----

### Emergency Overview

#### WHMIS Classification

D2B Toxic Material Causing Other Toxic Effects Moderate skin irritant  
Moderate eye irritant

#### GHS Classification

Skin irritation (Category 2)  
Eye irritation (Category 2A)

#### GHS Label elements, including precautionary statements

Pictogram



Signal word Warning

Hazard statement(s)

H315 Causes skin irritation.  
H319 Causes serious eye irritation.

Precautionary statement(s)

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### HMIS Classification

**Health hazard:** 2  
**Flammability:** 0  
**Physical hazards:** 0

#### Potential Health Effects

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. Causes skin irritation.  
**Eyes** Causes eye irritation.  
**Ingestion** May be harmful if swallowed.

### SECTION 3. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

Chemical Name	EC No.	CAS-No	Weight %
4,9-Diazoniadodecamethylenediammonium tetrachloride	206-189-8	306-67-2	<100

### SECTION 4. - - - - - FIRST-AID MEASURES- - - - -

#### General advice

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

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### SECTION 5. - - - - - FIRE FIGHTING MEASURES - - - - -

#### Conditions of flammability

Not flammable or combustible.

#### Suitable extinguishing media

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

#### Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### Hazardous combustion products

#### Explosion data - sensitivity to mechanical impact

No data available

#### Explosion data - sensitivity to static discharge

No data available

### SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES- - - - -

#### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

#### Environmental precautions

Do not let product enter drains.

#### 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.

### SECTION 7. - - - - - HANDLING AND STORAGE- - - - -

#### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

#### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Hygroscopic. Store under inert gas. Keep in a dry place.

## SECTION 8. - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - -

### Personal protective equipment

#### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

## SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

### Appearance

Form powder

Colour white

### Safety data

pH 5.0 - 7.0 at 348.2 g/l at 25 °C (77 °F)

Melting point/freezing point Melting point/range: 310 - 311 °C (590 - 592 °F) - dec.

Boiling point no data available

Flash point no data available

Ignition temperature no data available

Auto-ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Vapour pressure no data available

Density no data available

Water solubility ca.348.2 g/l at 20 °C (68 °F)

Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	pungent
Odour Threshold	no data available
Evaporation rate	no data available

## SECTION 10. -----STABILITY AND REACTIVITY -----

### **Chemical stability**

Stable under recommended storage conditions.

### **Possibility of hazardous reactions**

no data available

### **Conditions to avoid**

no data available

### **Materials to avoid**

Strong oxidizing agents

### **Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx),  
Hydrogen chloride gas  
Other decomposition products - no data available

## SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

### **Acute toxicity**

#### **Oral LD50**

No data available

#### **Inhalation LC50**

No data available

#### **Dermal LD50**

No data available

#### **Other information on acute toxicity**

No data available

### **Skin corrosion/irritation**

No data available

### **Serious eye damage/eye irritation**

No data available

### **Respiratory or skin sensitisation**

No data available

### **Germ cell mutagenicity**

Genotoxicity in vitro - Human - HeLa cell  
Cytogenetic analysis

Genotoxicity in vitro - Mammal - lymphocyte  
DNA damage

### **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 by IARC.

**Reproductive toxicity**

No data available

**Teratogenicity**

No data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

No data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

No data available

**Aspiration hazard**

No data available

**Potential health effects**

**Inhalation**

May be harmful if inhaled. Causes respiratory tract irritation.

**Ingestion**

May be harmful if swallowed.

**Skin**

May be harmful if absorbed through skin. Causes skin irritation.

**Eyes**

Causes eye irritation.

**Signs and Symptoms of Exposure**

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

**Synergistic effects**

No data available

**Additional Information**

RTECS: EJ7023000

**SECTION 12. ----- ECOLOGICAL INFORMATION -----**

**Toxicity**

No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**PBT and vPvB assessment**

No data available

**Other adverse effects**

No data available

**SECTION 13. ----- DISPOSAL CONSIDERATIONS -----**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14. ----- TRANSPORT INFORMATION -----**

**TDG (Canada)**  
Not dangerous goods

**IMDG**  
Not dangerous goods

**IATA**  
Not dangerous goods

**SECTION 15. ----- REGULATORY INFORMATION -----**

**WHMIS Classification**

D2B	Toxic Material Causing Other Toxic Effects	Moderate skin irritant Moderate eye irritant
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**SECTION 16. ----- OTHER INFORMATION -----**

Further information: no limited for paper copy, just for internal uses.  
For research use only. Not intended for human or animal diagnostic or therapeutic uses.

**Disclaimer**

The information provided on this SDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

**End of SDS**