



GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment						
	<table><tr><td>Health Hazard</td><td>3</td></tr><tr><td>Fire Hazard</td><td>1</td></tr><tr><td>Reactivity</td><td>0</td></tr></table>	Health Hazard	3	Fire Hazard	1	Reactivity	0	<div></div> <div>See Section 15.</div>
Health Hazard	3							
Fire Hazard	1							
Reactivity	0							

Section 1. Chemical Product and Company Identification			Page Number: 1
Common Name/ Trade Name	Spermine	Catalog Number(s).	S3080
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	CAS#	71-44-3
Commercial Name(s)	Not available.	RTECS	EJ7175000
Synonym	1,4-Bis(aminoapropyl) butanediamine; N,N'-Bis(3-aminopropyl)-1,4-butanediamine; 1,4-Diaminobutane; N,N'-bis(3-aminopropyl)-; 1,5,10,14-Tetrazaztetradecane; 4,9-Diaza-1,12-dodecanediamine; Diaminopropyltetramethylenediamine; Gerontine; Musculamine; N,N'-Bis(3-aminopropyl)-1,4-tetramethylenediamine; Neuridine; Spermine, puriss	TSCA	TSCA 8(b) inventory: Spermine
Chemical Name	1,4-Butanediamine, N,N'-bis(3-aminopropyl)-	CI#	Not available.
Chemical Family	Not available.	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000	
Chemical Formula	C10-H26-N4		
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2. Composition and Information on Ingredients					
		Exposure Limits			
Name	CAS #	TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	% by Weight
1) Spermine	71-44-3				100
Toxicological Data on Ingredients Spermine LD50: Not available. LC50: Not available.					

Section 3. Hazards Identification

Potential Acute Health Effects	Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (corrosive), of eye contact (corrosive). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Potential Chronic Health Effects	CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	May be combustible at high temperature.
Auto-Ignition Temperature	Not available.
Flash Points	CLOSED CUP: 110°C (230°F).
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂ ...).
Fire Hazards in Presence of Various Substances	Slightly flammable to flammable in presence of heat.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Special Remarks on Fire Hazards	Not available.

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Special Remarks on Explosion Hazards Not available.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill	Corrosive solid. Stop leak if without risk. If the product is in its solid form: Use a shovel to put the material into a convenient waste disposal container. If the product is in its liquid form: Do not get water inside container. Absorb with an inert material and put the spilled material in an appropriate waste disposal. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

Section 7. Handling and Storage

Precautions	Keep container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Store at 2-8°C. Refrigerate Moisture sensitive.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	Not available.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid.	Odor	Not available.
Molecular Weight	202.34 g/mole	Taste	Not available.
pH (1% soln/water)	Not available.	Color	Not available.
Boiling Point	130°C (266°F) @ 0.1 mm Hg.		
Melting Point	28°C (82.4°F) - 30 C.		
Critical Temperature	Not available.		
Specific Gravity	0.937(Water = 1)		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	Not available.		

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Spermine		Page Number: 4
Solubility	Not available.	
Section 10. Stability and Reactivity Data		
Stability	The product is stable.	
Instability Temperature	Not available.	
Conditions of Instability	Excess heat, incompatible materials	
Incompatibility with various substances	Reactive with oxidizing agents, acids.	
Corrosivity	Not available.	
Special Remarks on Reactivity	Incompatible with acid chlorides, acid anhydrides. Moisture sensitive	
Special Remarks on Corrosivity	Not available.	
Polymerization	Will not occur.	
Section 11. Toxicological Information		
Routes of Entry	Skin contact. Eye contact. Inhalation. Ingestion.	
Toxicity to Animals	LD50: Not available. LC50: Not available.	
Chronic Effects on Humans	May cause damage to the following organs: central nervous system (CNS).	
Other Toxic Effects on Humans	Very hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (corrosive), of eye contact (corrosive).	
Special Remarks on Toxicity to Animals	Other Lethal Dose/Conc: LD[Rat] - Route: Oral; Dose: 650 mg/kg	
Special Remarks on Chronic Effects on Humans	May affect genetic material (mutagenic)	
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: Causes severe skin irritation and causes skin burns. May cause skin rash in milder cases. May cause cold and clammy skin with cyanosis or pale color. Eyes: Causes severe eye irritation, and causes eye burns. May cause conjunctivitis and corneal damage. Inhalation: Material is destructive to the tissue of the mucous membranes and upper respiratory tract. Causes respiratory tract irritation and burns. Inhalation may also result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, pulmonary edema. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting. May also cause central nervous system effects similar to those of acute ingestion. Ingestion: May be harmful if swallowed. Causes digestive/gastrointestinal tract burns. May cause nausea, vomiting, perforation of the digestive tract. May cause severe and permanent damage to the digestive tract. May affect behavior/central nervous system (somnolence, convulsions, abnormal fatigue, dizziness, memory difficulties), respiration (dyspnea), kidneys (changes in tubules including acute renal failure, acute tubular necrosis). May also affect metabolism (cause dehydration) and cause cardiac disturbances.	
Section 12. Ecological Information		
Ecotoxicity	Not available.	
BOD5 and COD	Not available.	
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.	
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.	
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Special Remarks on the
Products of Biodegradation

Not available.

Section 13. Disposal Considerations

Waste Disposal

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification

Class 8: Corrosive material

Identification

: Amine, solid, coerosive, n.o.s. (Spermine) UNNA: 3259 PG: III

Special Provisions for
Transport

Not available.

DOT (Pictograms)



Section 15. Other Regulatory Information and Pictograms

Federal and State
Regulations

TSCA 8(b) inventory: Spermine

California
Proposition 65
Warnings

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

Other Regulations

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications

WHMIS (Canada)

CLASS E: Corrosive solid.

DSCL (EEC)

R34- Causes burns.

S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.)

Health Hazard	3
Fire Hazard	1
Reactivity	0
Personal Protection	j

National Fire Protection
Association (U.S.A.)

Health



Flammability

Reactivity

Specific hazard

WHMIS (Canada)
(Pictograms)

**DSCL (Europe)
(Pictograms)****TDG (Canada)
(Pictograms)****ADR (Europe)
(Pictograms)****Protective Equipment**

Gloves.



Synthetic apron.



Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Splash goggles.

Section 16. Other Information**MSDS Code** S0100**References** Not available.**Other Special Considerations** Not available.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

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CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.