

Safety Data Sheet


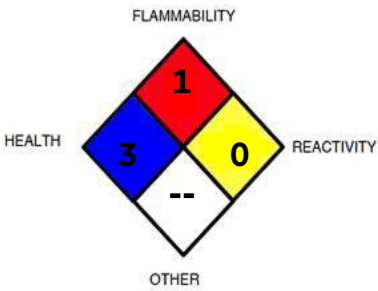
Section 1: Product & Company Identification

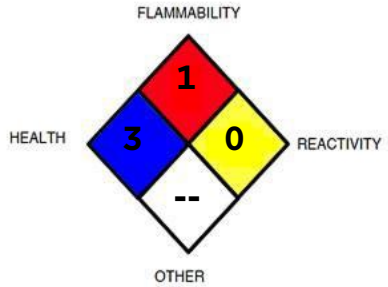
Product Name:	Spermidine (Free Base)
Product #:	S-2877
Synonyms:	1, 8-Diamino-4-azaoctane N-(3-Aminopropyl)-1,4-diaminobutane
Supplier:	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego CA 92131 Tele# + 858-452-9925
Emergency Tele#:	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

Section 2: Composition / Information on Ingredients

Component	CAS#	EC #	% Composition
Spermidine	124-20-9	204-689-0	≥99.0

Section 3: Hazards Identification

Symbols	
HMIS Classification	<p style="text-align: center;">FLAMMABILITY</p>  <p style="text-align: center;">OTHER</p>

NFPA Classification	
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Section 4: First Aid Measures

General Overview:	Consult a doctor and show this safety data sheet.
Inhalation:	Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.
Skin:	Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor.
Eyes:	Flush with copious amounts of water for at least 15 minutes. Consult a doctor.
Ingestion:	Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor.
	See section 11 for more detailed information on health effects & symptoms.

SECTION 5: Fire Fighting Measures

Flammability of the product:	No data available
Extinguishing Media:	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
Hazardous thermal (de)composition products:	Carbon oxides, nitrogen oxides (NO _x)
Special Fire Fighting Procedures:	Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.
Flash Point:	112°C

Section 6: Accidental Release Measures




Personal Precautions:	Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.
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Environmental Precautions:	Do not let product enter drains.
Methods for Clean-up:	Cover spillage with suitable absorbent material. Using non-spark tools, sweep up material and place in an appropriate container. Decontaminate spill site with 10% caustic solution and ventilate area until after disposal is complete. Hold all material for appropriate disposal as described under section 13 of SDS.

SECTION 7: Handling & Storage

Storage:	Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use. Recommended storage temperature: Store under inert gas. Air sensitive. Strongly hygroscopic.
Handling:	Use in a chemical fume hood, with air supplied by an independent system. Avoid inhalation, contact with eyes, skin, and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

SECTION 8: Exposure controls / Personal Protection

Respiratory Protection:	 <p>Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.</p>
Skin and Body:	  <p>Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.</p>

	Wear appropriate protective clothing. Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Eyes:	 <p>Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).</p>
Ventilation/Engineering Measures:	Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.
Hygiene:	Handle in accordance with good industrial hygiene and safety practice.
Other:	Contains no substances with occupational exposure limit values.

SECTION 9: Physical and Chemical Properties

Appearance & Odor:	Low melting solid to colorless liquid
Formula	$C_7H_{19}N_3$
Molecular Wt.	145.25
Melting Pt.	22 - 25°C
Boiling Pt.	No data available
pH:	12.0 - 13.5
Relative Density @ 25°C	0.925 g/mL
Water Solubility @ 20°C	145 g/L
Vapor Pressure:	No data available
Evaporation Rate:	No data available
Vapor Density:	No data available
Solubility:	Water, ethanol
Flash Point:	112°C
Autoignition Temp:	No data available

SECTION 10: Stability and Reactivity

Stability:	Stable under recommended storage conditions
Hazardous decomposition products:	No data available

Materials to Avoid:	Acids, Acid chlorides, Acid anhydrides, Oxidizing agents
Conditions to avoid:	Heat, moisture, water

SECTION 11: Toxicological Information

RTECS#:	N/A
ACUTE Toxicity:	N/A
CHRONIC Toxicity:	N/A
Chronic Exposure: Carcinogen: Mutagen: Teratogen: Reproductive:	<p>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.</p> <p>AGGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, potential human carcinogen by ACGIH.</p> <p>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated human carcinogen by NTP.</p> <p>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as known or potential human carcinogen by OSHA.</p> <p>EPA: No classification on carcinogenic data is available from EPA</p>

SECTION 12: Ecological Information

Ecotoxicity:	May be harmful to the aquatic environment.
Mobility:	No data available
Persistence and degradability:	No data available
Bioaccumulative potential:	No data available
Other adverse effects:	No data available
Corrosivity Characteristic:	No data available
General Notes:	To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

SECTION 13: Disposal Considerations

Residue Waste or Unused product:	Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Contaminated Packaging:	Dispose of container and unused contents in accordance with federal, state, and local requirements.

SECTION 14: Transportation Information	
UN ID#:	2735
ADR / RID (LAND):	N/A
DOT regulations:	UN 2735 Proper Shipping Name: Polyamines, liquid, corrosive, N.O.S. (4-Azaoctamethylenediamine) Hazard Class: 8 Packaging Group: II
IMDG/IMO (SEA):	UN 2735 Proper Shipping Name: Polyamines, liquid, corrosive, N.O.S. (4-Azaoctamethylenediamine) Hazard Class: 8 Packaging Group: II
IATA/DGR (AIR):	UN 2735 Proper Shipping Name: Polyamines, liquid, corrosive, N.O.S. (4-Azaoctamethylenediamine) Hazard Class: 8 Packaging Group: II
Special Provisions:	N/A

SECTION 15: Regulatory Information	
Health Phrases:	H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage
Risk Phrases:	P260 Do not breathe dust or mist. P264 Wash skin thoroughly after handling P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Safety Phrases:	P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/ physician. P321 Specific treatment (see supplemental first aid instructions on this label). P363 Wash contaminated clothing before reuse. P405 Store locked up. P501 Dispose of contents/ container to an approved waste disposal plant.
EU Regulations:	N/A
US Regulations:	TSCA: Listed California Proposition 65: No products were found

	New Jersey State Right to Know: Listed Pennsylvania State Right to Know: Listed
U.S. Federal Regulations:	<p>SARA 302/304 emergency planning and notification: No products were found.</p> <p>SARA 311/312 MSDS distribution-chemical inventory-hazard identification: Acute Health Hazard</p> <p>SARA 313 toxic chemicals notification and release reporting: No products were found.</p> <p>Clean Water Act (CWA) 307: No products were found.</p> <p>Clean Water Act (CWA) 311: No products were found.</p> <p>Clean Air Act (CAA) 112 accidental release prevention: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated flammable substances: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated toxic substances: No products were found.</p> <p>OSHA: Skin corrosion/irritation (Cat. 1), Serious eye damage (Cat. 1)</p>
WHMIS (Canada):	DSL: Listed

SECTION 16: Other Information

LIABILITY STATEMENT: *The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. AG Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. AG Scientific products are for research purposes only. Not for human use or consumption.*