

MATERIAL SAFETY DATA SHEET

Spermine NONOate: sc-202816



The Power to Question

1. Identification of the substance/preparation and of the company/undertaking

Product name : Spermine NONOate **Catalog #** : sc-202816
Chemical formula : $C_{10}H_{26}N_6O_2$ **Supplier** : Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800
Synonym : N-(2-Aminoethyl)-N-(2-hydroxy-2-nitrosohydrazino)-1,2-ethylenediamine
NOC-22

2. Composition / information on ingredients

Substance/Preparation : Substance

Chemical name*	CAS No.	EC Number	Symbol	R-Phrases
N-(2-Aminoethyl)-N-(2-hydroxy-2-nitrosohydrazino)-1,2-ethylenediamine NOC-22	136587-13-8	Not available.	-	-

3. Hazards identification

Physical/chemical hazards : Not applicable.
Human health hazards : No specific hazard.

4. First-aid measures

First-Aid measures

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get 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.
Skin Contact : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
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. Cold water may be used. Get medical attention.
Aggravating conditions : Repeated or prolonged exposure is not known to aggravate medical condition.

5. Fire-fighting measures

Flammability of the Product : May be combustible at high temperature.

Extinguishing Media

Suitable : SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Hazardous thermal (de)composition products : These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...).
Special fire-fighting procedures : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
Protection of fire-fighters : Be sure to use an approved/certified respirator or equivalent.

6. Accidental release measures

Personal precautions	: Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Small Spill and Leak	: Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill and Leak	: Use a shovel to put the material into a convenient waste disposal container.

7. Handling and storage

Handling	: Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust.
Storage	: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above -20°C (-4°F).
<u>Packaging materials</u>	
Recommended use	: Use original container.

8. Exposure controls/personal protection

Engineering measures	: 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.
Hygiene measures	: Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
Spermine NONOate	Not available.

Personal protective equipment

Skin and body	: Lab coat.
Eyes	: Safety glasses.
Protective Clothing (Pictograms)	:



9. Physical and chemical properties

Physical state	: Solid. (Crystalline solid.)
Color	: Not available.
Molecular Weight	: 262.4 g/mole
Melting Point	: 91 to 93°C (195.8 to 199.4°F)
Solubility	: Easily soluble in cold water.
Flash point	: Not available.
Explosive properties	: 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.

10. Stability and reactivity

Stability	: The product is stable.
Conditions to avoid	: Hygroscopic; keep container tightly closed.
Hazardous Decomposition Products	: These products are carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂ ...).

11. Toxicological information

<u>RTECS #</u>	: N/A
<u>Local effects</u>	
Skin irritation	: Not available.
Acute toxicity	: LD50: Not available. LC50: Not available.

Chronic toxicity	: Repeated or prolonged exposure is not known to aggravate medical condition.
Other Toxic Effects on Humans	: Not available. No specific information is available in our database regarding the other toxic effects of this material for humans. Not available. To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Carcinogenic effects	: Not available.
Mutagenic effects	: Not available.
Reproduction toxicity	: Not available.
Teratogenic effects	: Not available.

12. Ecological information

Ecotoxicity	: Not available.
Toxicity of the Products of Biodegradation	: The product itself and its products of degradation are not toxic.

13. Disposal considerations

Methods of disposal; Waste of residues; Contaminated packaging	: Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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14. Transport information

International transport regulations

Land - Road/Railway

ADR/RID Class	: Not controlled under ADR (Europe).
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Sea

IMDG Class	: Not controlled under IMDG.
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Air

IATA-DGR Class	: Not controlled under IATA.
Special Provisions for Transport	: Not applicable.

15. Regulatory information

EU Regulations

Risk Phrases	: This product is not classified according to the EU regulations.
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U.S. Federal Regulations

: TSCA: No products were found.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.
SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

HCS Classification	: Not controlled under the HCS (United States).
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State Regulations	:
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WHMIS (Canada)

: Not controlled under WHMIS (Canada).
No products were found.

16. Other information

**Hazardous Material
Information System
(U.S.A.)**

Health	0
Fire Hazard	1
Reactivity	0
Personal Protection	A

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



The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.

Emergency Contact:

Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800
or Luis Yanez 831.251.2170