MATERIAL SAFETY DATA SHEET (MSDS)

1. Identification

1.1. GHS Product identifier

Product name Spermidine

1.2. Other means of identification

Product number -

Other names N-(3-Aminopropyl)-1,4-butanediamine; 1,8-Diamino-4-

azaoctane

1.3. Recommended use of the chemical and restrictions on use

Identified usesScientific research uses.Uses advised againstno data available

1.4. Supplier's details

Company SUZHOU MYLAND PHARM & NUTRITION INC.

Address No.208 Chaoqing Office Tower, 262 Dongping Road,
Suzhou Industry Park, Suzhou, Jiangsu, China. 215123

Telephone 86-512-66706057 **Fax** 86-512-66703687-8009

2. Hazard identification

2.1. Classification of the substance or mixture

Skin corrosion, Sub-category 1B Serious eye damage, Category 1

2.2. GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s) H314 Causes severe skin burns and eye damage

Precautionary statement(s)

Prevention P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye

protection/face protection/hearing protection

Response P301+P330+P331 IF SWALLOWED: Rinse mouth. Do

NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and

keep comfortable for breathing.

P316 Get emergency medical help immediately. P321 Specific treatment (see ... on this label).

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

easy to do. Continue rinsing.

P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

P317 Get medical help. P405 Store locked up.

Disposal P501 Dispose of contents/container to an appropriate

treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of

disposal.

2.3. Other hazards which do not result in classification

no data available

Storage

3. Composition/information on ingredients

3.1. Substances

Chemic	al name	Common names and synonyms	CAS number	EC number	Concentration
Sperm	nidine	N-(3-Aminopropyl)-1,4- butanediamine; 1,8-Diamino-4-azaoctane	124-20-9	204-689-0	100%

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

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

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.

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

Keep sealed, dry and away from light, storage at 2° C to 8° C.

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/flame 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

9. Physical and chemical properties

Physical state Liquid

Odour no data available Melting point no data available

Boiling point or initial boiling no data available

point and boiling range

Flammability no data available Lower and upper explosion limit no data available

/ flammability limit

Flash point no data available
Auto-ignition temperature no data available
Decomposition temperature pH no data available
Kinematic viscosity no data available
Solubility no data available
Partition coefficient n- no data available

octanol/water

Vapour pressureno data availableDensity and/or relative densityno data availableRelative vapour densityno data availableParticle characteristicsno data available

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

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

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

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: UN2735 (For reference IATA: UN2735 (For reference reference only, please check.)

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14.2. UN Proper Shipping Name

ADR/RID: AMINES, LIQUID, IMDG: AMINES, LIQUID, IATA: AMINES, LIQUID, CORROSIVE, N.O.S. (For reference only, please check.)

CORROSIVE, N.O.S. (For reference only, please check.)

14.3. Transport hazard class(es)

ADR/RID: 8 (For reference only, IMDG: 8 (For reference only, IATA: 8 (For reference only, please check.)

please check.)

14.4. Packing group, if applicable

ADR/RID: II(For reference only, please check.)

IMDG: II(For reference only, please check.)

IATA: II(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		
Spermidine	N-(3-Aminopropyl)-1,4-butanediamine; 1,8-Diamino-4-azaoctane	124-20-9	204-689-0		
European Inventory of Existing Commercial Chemical Substances (EINECS)					
EC Inventory					
United States Toxic Substances Control Act (TSCA) Inventory					
China Catalog of Hazardous chemicals 2015					
New Zealand Inventory of Chemicals (NZIoC)					
Philippines Inventory of Chemicals and Chemical Substances (PICCS)					
Vietnam National Chemical Inventory					
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)					
Korea Existing Chemicals List (KECL)					

16. Other information

Further information

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