

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)  
Classifications according to Regulation (EC) No 1272/2008.  
Printdate 25 Apr 2023

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product name:

Spermine

### 1.1. Catalog No.:

676719

### 1.2. Relevant identified uses of the substance or mixture

Identified: Laboratory chemical  
uses: R&D

### 1.3. Uses advised against:

HPC Standards GmbH  
Am Wieseneck 7

04451 Cunnersdorf  
Deutschland

Tel. +49 34291 3372-36  
Fax. +49 34291 3372-39  
contact@hpc-standards.com

### 1.4. Emergency telephone number

HPC Standards Tel. +49 34291 3372-36  
This number is only available during office hours.

## 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture  
Classification according to Regulation (EC) No 1272/2008  
Skin corrosion (Category 1B), H314 Classification according to EU Directives 67/548/EEC or 1999/45/EC  
C Corrosive R34

### 2.2. Label elements

#### 2.2.1. Pictogram



#### 2.2.2.

Signal word Danger  
Hazard statement(s)  
H314 Causes severe skin burns and eye damage.  
Precautionary statement(s)  
P280 Wear protective gloves/ protective clothing/ eye protection/ face

protection.

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.

Supplemental Hazard

Statements

none

2.3 Other hazards - none

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : C<sub>10</sub>H<sub>26</sub>N<sub>4</sub>

Molecular Weight : 202,35 g/mol

CAS-No. : 71-44-3

EC-No. : 200-754-2

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component Classification Concentration

4,9-Diazadodecamethylenediamine

Skin Corr. 1B; H314 -

#### 3.1.1. Formula

C<sub>10</sub>H<sub>26</sub>N<sub>4</sub>

#### 3.1.2. Molecular Weight (g/mol)

202.34

#### 3.1.3. CAS-No.

71-44-3

#### 4. FIRST AID MEASURES

##### 4.1 Description of first aid measures

###### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

###### If inhaled

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

###### In case of skin contact

Take off contaminated clothing and shoes immediately. 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

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

##### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

##### 4.3 Indication of any immediate medical attention and special treatment needed

no data available

#### 5. FIRE-FIGHTING MEASURES

##### 5.1 Extinguishing media

###### Suitable extinguishing media

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

##### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO<sub>x</sub>)

##### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

##### 5.4 Further information

no data available

#### 6. ACCIDENTAL RELEASE MEASURES

##### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

##### 6.2 Environmental precautions

Do not let product enter drains.

##### 6.3 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.

##### 6.4 Reference to other sections

For disposal see section 13

#### 7. HANDLING AND STORAGE

##### 7.1 Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

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

Recommended storage temperature: 2 - 8 °C

Stench. Hygroscopic. Air sensitive. Store under inert gas.

7.3 Specific end use(s)

A part from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Components with workplace control parameters

### 8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face protection

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).

Skin 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. Body Protection

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.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance Form: crystalline

Colour: colourless, white

b) Odour no data available

c) Odour Threshold no data available

d) pH no data available

e) Melting point/freezing

point

28 - 30 °C

f) Initial boiling point and

boiling range

130 °C at 0,1 hPa

g) Flash point 110 °C - closed cup

h) Evaporation rate no data available

i) Flammability (solid, gas) no data available

j) Upper/lower

flammability or

explosive limits

no data available

k) Vapour pressure no data available

- l) Vapour density no data available
- m) Relative density 0,937 g/cm<sup>3</sup>
- n) Water solubility no data available
- o) Partition coefficient: noctanol/  
water  
no data available
- p) Auto-ignition  
temperature  
no data available
- q) Decomposition  
temperature  
no data available
- r) Viscosity no data available
- s) Explosive properties no data available
- t) Oxidizing properties no data available
- 9.2 Other safety information  
no data available

## 10. STABILITY AND REACTIVITY

- 10.1 Reactivity  
no data available
- 10.2 Chemical stability  
Stable under recommended storage conditions.
- 10.3 Possibility of hazardous reactions  
no data available
- 10.4 Conditions to avoid  
no data available
- 10.5 Incompatible materials  
acids, Acid chlorides, Acid anhydrides, Oxidizing agents
- 10.6 Hazardous decomposition products  
Other decomposition products - no data available  
In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

- 11.1 Information on toxicological effects
  - Acute toxicity  
no data available
  - LD50 Intraperitoneal - rat - 33 mg/kg
  - Remarks: Lungs, Thorax, or Respiration: Other changes. Kidney, Ureter, Bladder: Changes in tubules (including acute renal failure, acute tubular necrosis). Nutritional and Gross Metabolic: Dehydration.
  - Skin corrosion/irritation  
no data available
  - Serious eye damage/eye irritation  
no data available
  - Respiratory or skin sensitisation  
no data available
  - Germ cell mutagenicity  
mouse  
lymphocyte  
Cytogenetic analysis  
Hamster  
Kidney  
DNA inhibition  
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
  - Specific target organ toxicity - single exposure

no data available  
Specific target organ toxicity - repeated exposure  
no data available  
Aspiration hazard  
no data available  
Additional Information  
RTECS: EJ7175000  
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

## 12. ECOLOGICAL INFORMATION

12.1 Toxicity  
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 Results of PBT and vPvB assessment  
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted  
12.6 Other adverse effects  
no data available

## 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods  
Product  
Offer surplus and non-recyclable solutions to a licensed disposal company. 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 as unused product.

## 14. TRANSPORT INFORMATION

14.1 UN number  
ADR/RID: 3259 IMDG: 3259 IATA: 3259  
14.2 UN proper shipping name  
ADR/RID: POLYAMINES, SOLID, CORROSIVE, N.O.S. (4,9-Diazadodecamethylenediamine)  
IMDG: POLYAMINES, SOLID, CORROSIVE, N.O.S. (4,9-Diazadodecamethylenediamine)  
IATA: Polyamines, solid, corrosive, n.o.s. (4,9-Diazadodecamethylenediamine)  
14.3 Transport hazard class(es)  
ADR/RID: 8 IMDG: 8 IATA: 8  
14.4 Packaging group  
ADR/RID: II IMDG: II IATA: II  
14.5 Environmental hazards  
ADR/RID: no IMDG Marine pollutant: no IATA: no  
14.6 Special precautions for user  
no data available

## 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture  
no data available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

## 16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide.  
The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. For lab use only!