

**Safety Data Sheet**

according to UK REACH Regulation

**Spermine(HBBH)**

Revision date: 20.07.2021

Product code: SNN1080

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Spermine(HBBH)

**Further trade names**

N2,N3-Bis-(t-butyloxycarbonyl)-1,5,10,14-tetra-aza-quatrodecan

CAS No: 177213-61-5

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Laboratory chemical. Manufacture of the substance.

**Uses advised against**

Do not use for private purposes (household).

Restrictions on use: Pharmaceutical substance

**1.3. Details of the supplier of the safety data sheet**

Company name:	Iris Biotech GmbH	
Street:	Adalbert-Zoellner-Straße 1	
Place:	D-95615 Marktredwitz, Germany	
Post-office box:	568	
	D-95605 Marktredwitz, Germany	
Telephone:	+49 9231 97121 0	Telefax: +49 9231 97121 99
e-mail:	info@iris-biotech.de	
Contact person:	Compliance Department	Telephone: +49 9231 97121 0
e-mail:	sds@iris-biotech.de	
Internet:	www.iris-biotech.de	
Responsible Department:	Only available during office hours.	

**1.4. Emergency telephone number:** +49 (0)89 19240 (POISON CENTER Munich: 24 h)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Causes serious eye irritation.

May cause respiratory irritation.

Causes skin irritation.

**2.2. Label elements****GB CLP Regulation****Signal word:** Warning**Pictograms:****Hazard statements**

H315 Causes skin irritation.

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H319 Causes serious eye irritation.  
 H335 May cause respiratory irritation.

**Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
 P332+P313 If skin irritation occurs: Get medical advice/attention.  
 P304+P340 IF INHALED: Remove person to fresh air and keep 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.

**SECTION 3: Composition/information on ingredients**
**3.1. Substances**
**Chemical characterization**

N2,N3-Bis-(t-butyloxycarbonyl)-1,5,10,14-tetra-aza-quatradecan

Sum formula: C20H42N4O4

Molecular weight: 402.58 g/mol

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
	Spermine(HBBH)			100 %
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 H335			

Full text of H and EUH statements: see section 16.

**SECTION 4: First aid measures**
**4.1. Description of first aid measures**
**General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

**After inhalation**

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap.

In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with eyes**

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

**After ingestion**

Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person or a person with cramps.

In all cases of doubt, or when symptoms persist, seek medical advice.

**4.2. Most important symptoms and effects, both acute and delayed**

No information available.

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**4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**Co-ordinate fire-fighting measures to the fire surroundings. Water spray. alcohol resistant foam. Dry extinguishing powder. Carbon dioxide (CO<sub>2</sub>). Sand.**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**

Thermal decomposition can lead to the escape of irritating gases and vapours.

In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide Nitrogen oxides (NO<sub>x</sub>).**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing.

**Additional information**

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water. Usual measures for fire prevention.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General measures**

Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Provide adequate ventilation.

Wear personal protection equipment.

In case of fire: Evacuate area.

**6.2. Environmental precautions**

Do not allow to enter into soil/subsoil.

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****Other information**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Take up mechanically, placing in appropriate containers for disposal. Avoid dust formation.

Clear contaminated areas thoroughly.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13 Treat the recovered material as prescribed in the section on waste disposal.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid contact with skin, eyes and clothes.

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

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**Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. Avoid contact with skin, eyes and clothes. Provide adequate ventilation. When using do not eat, drink or smoke. Wash hands before breaks and after work.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place.  
Handle and store contents under inert gas. Protect from moisture.  
storage temperature: 2-8°C

**Hints on joint storage**

No special measures are necessary.

**7.3. Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Additional advice on limit values**

To date, no national critical limit values exist.

**8.2. Exposure controls****Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Suitable eye protection: goggles. Wear eye/face protection.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Wear suitable gloves.

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**Skin protection**

Wear suitable protective clothing. Wear suitable protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

**Environmental exposure controls**

Discharge into the environment must be avoided.

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**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	liquid/ oil
Colour:	colourless/ yellowish
Odour:	No data available

**Changes in the physical state**

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Flash point:	not determined

**Flammability**

Solid/liquid:	not applicable
Gas:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined

**Self-ignition temperature**

Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined
pH-Value:	not determined
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Flow time:	not determined
Water solubility:	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density:	not determined
Bulk density:	not applicable
Relative vapour density:	not determined

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No data available

**10.2. Chemical stability**

The product is under normal ambient conditions (room temperature) chemically stable.

**10.3. Possibility of hazardous reactions**

No data available

**10.4. Conditions to avoid**Protect from moisture.  
Keep away from heat.**10.5. Incompatible materials**

Oxidizing agents, strong.

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**10.6. Hazardous decomposition products**

Thermal decomposition can lead to the escape of irritating gases and vapours.

In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide Nitrogen oxides (NO<sub>x</sub>).

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Toxicokinetics, metabolism and distribution**

No data available

**Acute toxicity**

Based on available data, the classification criteria are not met.

No data available

**Irritation and corrosivity**

Causes skin irritation.

Causes serious eye irritation.

Harmful by inhalation, in contact with skin and if swallowed.

Irritating to eyes, respiratory system and skin.

**Sensitising effects**

Based on available data, the classification criteria are not met.

No data available

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

No data available

**STOT-single exposure**

May cause respiratory irritation. (Spermine(HBBH))

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

No data available

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Specific effects in experiment on an animal**

No data available

**Practical experience**

No data available

**Further information**

RTECS: No data available

Warning - substance not yet tested completely.

**SECTION 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**

No data available

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**12.7. Other adverse effects**

No information available.

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Dispose of waste according to applicable legislation.  
Consult the appropriate local waste disposal expert about waste disposal.  
Handle contaminated packages in the same way as the substance itself.

**Contaminated packaging**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.**Inland waterways transport (ADN)****14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.**Marine transport (IMDG)****14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.**Air transport (ICAO-TI/IATA-DGR)****14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information****Additional information**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

**National regulatory information**

Water hazard class (D): 3 - highly hazardous to water

**15.2. Chemical safety assessment**

For this substance a chemical safety assessment has not been carried out.

**SECTION 16: Other information****Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service  
LC50: Lethal concentration, 50%  
LD50: Lethal dose, 50%

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**Relevant H and EUH statements (number and full text)**

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. Warning - substance not yet tested completely.

The product is intended for research, analysis and scientific education.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.