# 1,4-Bis(3-aminopropyl)piperazine: sc-223014

## MATERIAL SAFETY DATA SHEET

### 1 Identification of substance:

**Product Name:** 1,4-Bis(3-aminopropyl)piperazine
**Catalog Number:** sc-223014
**Supplier:** Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800
**Emergency:** ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

### 2 Hazards identification

**Classification of the substance or mixture**

GHS05 Corrosion

H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

C; Corrosive

R34: Causes burns.

**Label elements**

**Labelling according to EU guidelines:**

**Code letter and hazard designation of product:**
C Corrosive

**Risk phrases:**
34 Causes burns.

**Safety phrases:**
20 When using do not eat or drink.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately.

**Hazard description:**
**WHMIS classification**

**Classification system**
**HMIS ratings (scale 0-4)**
**(Hazardous Materials Identification System)**

| | |
|---|---|
| HEALTH | 3 |
| FIRE | 1 |
| REACTIVITY | 1 |

Health (acute effects) = 3
Flammability = 1
Reactivity = 1

**Other hazards**
**Results of PBT and vPvB assessment**
**PBT:** Not applicable.
**vPvB:** Not applicable.

### 3 Composition/information on ingredients

**Chemical characterization: Substances**
**(CAS#) Description:**
1,4-Bis(3-aminopropyl)piperazine (CAS# 7209-38-3).
**Identification number(s):**
**EINECS Number:** 230-589-1

## 4 First aid measures

**Description of first aid measures**
**General information** Immediately remove any clothing soiled by the product.
**After inhalation**
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
**After skin contact**
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
**After eye contact**
Rinse opened eye for several minutes under running water. Then consult a doctor.
**After swallowing** Seek immediate medical advice.

## 5 Firefighting measures

**Extinguishing media**
**Suitable extinguishing agents**
Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
**Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
**Advice for firefighters**
**Protective equipment:**
Wear self-contained respirator.
Wear fully protective impervious suit.

## 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
**Environmental precautions:**
Do not allow material to be released to the environment without proper governmental permits.
**Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
**Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

## 7 Handling and storage

**Handling**
**Precautions for safe handling**
Handle under dry protective gas.
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
**Information about protection against explosions and fires:** Keep ignition sources away.

**Conditions for safe storage, including any incompatibilities**
**Storage**
**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:**
Store away from air.
Store away from oxidizing agents.
**Further information about storage conditions:**
Store under dry inert gas. Store at room temperature.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
This product is air sensitive.

## 8 Exposure controls/personal protection

**Additional information about design of technical systems:**
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Control parameters**
**Components with limit values that require monitoring at the workplace:** Not required.
**Additional information:** No data

***Exposure controls***
***Personal protective equipment***
***General protective and hygienic measures***
*The usual precautionary measures for handling chemicals should be followed.*
*Keep away from foodstuffs, beverages and feed.*
*Remove all soiled and contaminated clothing immediately.*
*Wash hands before breaks and at the end of work.*
*Avoid contact with the eyes and skin.*
***Breathing equipment:*** *Use suitable respirator when high concentrations are present.*
***Protection of hands:***
*Check protective gloves prior to each use for their proper condition.*
*Impervious gloves*
***Material of gloves***
*The selection of suitable gloves not only depends on the material, but also on quality.*
*Quality will vary from manufacturer to manufacturer.*
***Eye protection:***
*Safety glasses*
*Tightly sealed goggles*
*Full face protection*
***Body protection:*** *Protective work clothing.*

## 9 Physical and chemical properties

| | |
|---|---|
| ***Information on basic physical and chemical properties*** | |
| ***General Information*** | |
| ***Appearance:*** | |
| ***Form:*** | *Liquid* |
| ***Formula:*** | *C10H24N4* |
| ***Weight:*** | *200.32* |
| ***pH-value:*** | *Not determined.* |
| ***Change in condition*** | |
| ***Melting point/Melting range:*** | *14°C (57 °F)* |
| ***Boiling point/Boiling range:*** | *150-152°C (302-306 °F) (2 mmHg)* |
| ***Sublimation temperature / start:*** | *Not determined* |
| ***Flash point:*** | *162°C (324 °F)* |
| ***Flammability (solid, gaseous)*** | *Not applicable.* |
| ***Ignition temperature:*** | *Not determined* |
| ***Decomposition temperature:*** | *Not determined* |
| ***Auto igniting:*** | *Not determined.* |
| ***Danger of explosion:*** | *Product does not present an explosion hazard.* |
| ***Explosion limits:*** | |
| ***Lower:*** | *Not determined* |
| ***Upper:*** | *Not determined* |
| ***Vapor pressure:*** | *Not determined* |
| ***Density at 20°C (68 °F):*** | *0.973 g/cm³ (8.12 lbs/gal)* |
| ***Relative density*** | *Not determined.* |
| ***Vapour density*** | *Not determined.* |
| ***Evaporation rate*** | *Not determined.* |
| ***Solubility in / Miscibility with*** | |
| ***Water:*** | *Fully miscible* |
| ***Segregation coefficient (n-octonol/water):*** | *Not determined.* |
| ***Viscosity:*** | |
| ***dynamic:*** | *Not determined.* |
| ***kinematic:*** | *Not determined.* |
| ***Other information*** | *No further relevant information available.* |

## 10 Stability and reactivity

***Reactivity***
***Chemical stability***
***Thermal decomposition / conditions to be avoided:***
*Decomposition will not occur if used and stored according to specifications.*
***Possibility of hazardous reactions*** *No dangerous reactions known*
***Incompatible materials:***
*Air*
*Oxidizing agents*
***Hazardous decomposition products:***
*Carbon monoxide and carbon dioxide*
*Nitrogen oxides*

## 11 Toxicological information

**Information on toxicological effects**
**Acute toxicity:**
**Primary irritant effect:**
**on the skin:**
Corrosive effect on skin and mucous membranes.
Irritant to skin and mucous membranes.
**on the eye:**
Strong corrosive effect.
Irritating effect.
**Sensitization:** No sensitizing effects known.
**Subacute to chronic toxicity:**
Corrosive materials are acutely destructive to the respiratory tract, eyes, skin and digestive tract. Eye contact may result in permanent damage and complete vision loss. Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Ingestion may cause damage to the mouth, throat and esophagus. May cause skin burns or irritation depending on the severity of the exposure.
**Additional toxicological information:**
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

## 12 Ecological information

**Toxicity**
**Acquatic toxicity:** No further relevant information available.
**Persistence and degradability** No further relevant information available.
**Behavior in environmental systems:**
**Bioaccumulative potential** No further relevant information available.
**Mobility in soil** No further relevant information available.
**Additional ecological information:**
**General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Do not allow material to be released to the environment without proper governmental permits.
**Results of PBT and vPvB assessment**
**PBT:** Not applicable.
**vPvB:** Not applicable.
**Other adverse effects** No further relevant information available.

## 13 Disposal considerations

**Waste treatment methods**
**Recommendation** Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**
**Recommendation:** Disposal must be made according to official regulations.
**Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

**DOT regulations:**


| | |
|---|---|
| **Hazard class:** | 8 |
| **Identification number:** | UN2735 |
| **Packing group:** | II |
| **Proper shipping name (technical name):** | AMINES, LIQUID, CORROSIVE, N.O.S. (1,4-Bis(3-aminopropyl)piperazine) |
| **Label** | 8 |

**Land transport ADR/RID (cross-border)**


| | |
|---|---|
| **ADR/RID class:** | 8 (C7) Corrosive substances |
| **Danger code (Kemler):** | 80 |
| **UN-Number:** | 2735 |
| **Packaging group:** | II |
| **UN proper shipping name:** | 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (1,4-Bis(3-aminopropyl)piperazine) |

***Maritime transport IMDG:***

| | |
|---|---|
| ***IMDG Class:*** | *8* |
| ***UN Number:*** | *2735* |
| ***Label*** | *8* |
| ***Packaging group:*** | *II* |
| ***Marine pollutant:*** | *No* |
| ***Segregation groups*** | *Alkalis* |
| ***Proper shipping name:*** | *AMINES, LIQUID, CORROSIVE, N.O.S. (1,4-Bis(3-aminopropyl)piperazine)* |

***Air transport ICAO-TI and IATA-DGR:***

| | |
|---|---|
| ***ICAO/IATA Class:*** | *8* |
| ***UN/ID Number:*** | *2735* |
| ***Label*** | *8* |
| ***Packaging group:*** | *II* |
| ***Proper shipping name:*** | *AMINES, LIQUID, CORROSIVE, N.O.S. (1,4-Bis(3-aminopropyl)piperazine)* |

***UN "Model Regulation":*** *UN2735, AMINES, LIQUID, CORROSIVE, N.O.S., 8, II*
***Special precautions for user*** *Warning: Corrosive substances*
***Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code*** *Not applicable.*

## *15 Regulatory information*

***Safety, health and environmental regulations/legislation specific for the substance or mixture***

***Product related hazard informations:***

***Hazard symbols:***
*C Corrosive*

***Risk phrases:***
*34 Causes burns.*

***Safety phrases:***
*20 When using do not eat or drink.*
*26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.*
*36/37/39 Wear suitable protective clothing, gloves and eye/face protection.*
*45 In case of accident or if you feel unwell, seek medical advice immediately.*

***National regulations***
*All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.*
*All components of this product are listed on the Canadian Domestic Substances List (DSL).*

***Information about limitation of use:*** *For use only by technically qualified individuals.*
***Chemical safety assessment:*** *A Chemical Safety Assessment has not been carried out.*

## *16 Other information:*

***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.***