Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier
Product Name: Pipobroman
Product Code: SC-476451
CAS No: 54-91-1
Synonyms: 1,4-bis(3-Bromopropionyl)piperazine
Pure substance/mixture: Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against
For research use only. Not intended for diagnostic or therapeutic use.

1.3. Details of the supplier of the safety data sheet
Santa Cruz Biotechnology, Inc.
10410 Finnell Street
Dallas, TX 75220
831.457.3800
800.457.3801
scbt@scbt.com

1.4. Emergency telephone number
Chemtrec
1.800.424.9300 (Within USA)
+1.703.527.3887 (Outside USA)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
Regulation (EC) No 1272/2008
Acute toxicity - Oral
Category 3 - (H301)

Classification according to 67/548/EEC
Hazard symbols: Xn - Harmful
R-code(s): Xn;R22

2.2. Label Elements
Signal word: Danger
Symbols/Pictograms:

Hazard statements
Precautionary Statements - EU (§28, 1272/2008)
H301 - Toxic if swallowed
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P321 - Specific treatment (see Emergency Phone Number on this label)

2.3. Other Hazards
General Hazards: Not applicable
Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Weight 356.05
Formula C_{10}H_{16}Br_{2}N_{2}O_{2}

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC No</th>
<th>CAS No</th>
<th>Weight %</th>
<th>Classification according to 67/548/EEC</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
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</thead>
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<tr>
<td>Pipobroman</td>
<td>-</td>
<td>54-91-1</td>
<td>100</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

Full text of R-phrases: see section 16
Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice
If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Inhalation
Remove to fresh air. Call a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Skin Contact
Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Ingestion
Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting.

Self-protection of the first aider
Use personal protective equipment as required.

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

Symptoms
No information available.

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

Note to physicians
Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical
Thermal decomposition can lead to release of toxic/corrosive gases and vapors

Hazardous combustion products

5.3. Advice for firefighters

Special protective equipment for fire-fighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Personal precautions
For emergency responders

Ensure adequate ventilation, especially in confined areas.
Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions
Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.
Methods for cleaning up
Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly.

6.4. Reference to other sections
See Section 12: ECOLOGICAL INFORMATION.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling
Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Corrosive hazard. Wear protective gloves/clothing and eye/face protection. Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

General Hygiene Considerations
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

7.3. Specific end use(s)

Risk Management Methods (RMM)
The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)
No information available

Predicted No Effect Concentration (PNEC)
No information available.

8.2. Exposure controls

Engineering Controls
Showers
Eyewash stations
Ventilation systems

Eye/face protection
Tight sealing safety goggles.

Skin and Body Protection
Wear protective gloves and protective clothing.

Respiratory protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Environmental exposure controls
Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State
Solid

Appearance
No information available
Section 10: STABILITY AND REACTIVITY

10.1. Reactivity
Reactivity Not applicable

10.2. Chemical stability
Stability Stable under recommended storage conditions.
Sensitivity to Mechanical Impact No information available.
Sensitivity to Static Discharge No information available.

10.3. Possibility of hazardous reactions
Hazardous polymerization No information available.
Possibility of Hazardous Reactions None under normal processing.

10.4. Conditions to avoid
Conditions to avoid Extremes of temperature and direct sunlight.

10.5. Incompatible materials
Incompatible materials Strong oxidizing agents.

10.6. Hazardous decomposition products

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
Acute toxicity
Product Information Product does not present an acute toxicity hazard based on known or supplied information.
Unknown acute toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document
ATEmix (oral) 220.00 mg/kg
Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecotoxicity
May cause long lasting harmful effects to aquatic life.
Unknown aquatic toxicity
100% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

12.2. Persistence and degradability
Persistence and degradability
No information available.

12.3. Bioaccumulative potential
Bioaccumulation
No information available.

12.4. Mobility in soil
Mobility
No information available.

12.5. Results of PBT and vPvB assessment
PBT and vPvB assessment
No information available.

12.6. Other adverse effects
Other adverse effects
No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Waste from residues/unused products
Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging
Do not reuse container.
Other Information
Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>RID / ADR</th>
<th>IMDG</th>
<th>ICAO (air) / IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
</tr>
</tbody>
</table>

14.1 UN/ID no
14.2 Proper shipping name
14.3 Hazard Class
14.4 Packing Group
14.5 Environmental Hazard
14.6 Special Provisions

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
National Regulations

European Union
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

International Inventories
All of the components in the product are on the following Inventory lists

No information available

X - Listed
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

15.2. Chemical safety assessment
Chemical Safety Report No information available

Section 16: OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3 R22 - Harmful if swallowed
Revision note No information available.

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

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet