1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name: Bortezomib
Product Code: SC-217785

Recommended use of the chemical and restrictions on use
For research use only. Not intended for diagnostic or therapeutic use.

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

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

2. HAZARDS IDENTIFICATION

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification
Acute toxicity - Oral: Category 2
Acute toxicity - Dermal: Category 2
Acute toxicity - Inhalation (Dusts/Mists): Category 2
Specific target organ toxicity (repeated exposure): Category 1

Label elements
Signal word: Danger
Hazard statements:
- Causes damage to organs through prolonged or repeated exposure
- Fatal in contact with skin
- Fatal if inhaled
- Fatal if swallowed

Symbols/Pictograms

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not get in eyes, on skin, or on clothing
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Precautionary Statements - Response

Get medical advice/attention if you feel unwell
IF ON SKIN: Gently wash with plenty of soap and water
Immediately call a POISON CENTER or doctor/physician
Remove/Take off immediately all contaminated clothing
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a
position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or
doctor/physician
Rinse mouth

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container
tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal
plant

Hazards not otherwise classified (HNOC)

Hazards not otherwise classified (HNOC) Not applicable

Other Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No 179324-69-7
Molecular Weight 384.24
Formula C_{19}H_{25}BN_{4}O_{4}

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<thead>
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<th>Chemical name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
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<td>179324-69-7</td>
<td>&gt;98</td>
<td>-</td>
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4. FIRST AID MEASURES

First Aid Measures

General advice

Immediate medical attention is required. If symptoms persist, call a physician.

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. Call a physician
immediately. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and
upper eyelids. Consult a physician. If symptoms persist, call a physician.

Skin Contact

Immediate medical attention is required. Wash off immediately with soap and plenty of
water while removing all contaminated clothes and shoes. Wash contaminated clothing
before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a
physician.

Inhalation

Immediate medical attention is required. Remove to fresh air. If not breathing, give artificial
respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation
Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a
physician.

Ingestion

Do NOT induce vomiting. Call a physician or poison control center immediately. Never give
anything by mouth to an unconscious person. Drink plenty of water. Clean mouth with water
and drink afterwards plenty of water. Call a physician.

Self-protection of the first aider

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.
Ensure that medical personnel are aware of the material(s) involved, take precautions to
Most important symptoms and effects, both acute and delayed
Symptoms
No information available.

Indication of any immediate medical attention and special treatment needed
Note to physicians
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

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

Unsuitable Extinguishing Media
No information available.

Specific hazards arising from the chemical
No information available.

Hazardous combustion products
Carbon oxides. Nitrogen oxides (NOx).

Explosion data
No information available.

Protective equipment and precautions for firefighters
Wear self-contained breathing apparatus and protective suit. Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up
Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.
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. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Take precautionary measures against static discharges.

7. HANDLING AND STORAGE

Precautions for 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. Handle in accordance with good industrial hygiene and safety practice. Corrosive hazard. Wear protective gloves/clothing and eye/face protection.

**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. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. Do not allow contact with air. Store at -20 °C.

**Incompatible materials**
None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

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

**Appropriate engineering controls**

**Engineering Controls**
Showers
Eyewash stations
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**
Tight sealing safety goggles. Face protection shield.

**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.

**General Hygiene Considerations**
When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State**
Solid

**Appearance**
No information available

**Odor**
No information available

**Property**

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<tr>
<th>Property</th>
<th>Values</th>
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<td>Liquid Density</td>
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<tr>
<td>Lower flammability limit</td>
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<tr>
<td>Vapor pressure</td>
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<tr>
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<tr>
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<tr>
<td>Water solubility</td>
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</tr>
<tr>
<td>Decomposition temperature</td>
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</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity  
Not applicable

Chemical stability  
Stable under recommended storage conditions.

Possibility of Hazardous Reactions  
None under normal processing.

Hazardous polymerization  
No information available.

Conditions to avoid  
Do not allow contact with air.

Incompatible materials  
Strong oxidizing agents.

Hazardous Decomposition Products  
Carbon oxides. Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation  
No data available.

Eye contact  
No data available.

Skin Contact  
No data available.

Ingestion  
No data available.

Information on toxicological effects

Symptoms  
No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity  
Prolonged or repeated exposure increases the risk. Possible risk of irreversible effects. Avoid repeated exposure.

Numerical measures of toxicity - Product Information

Unknown acute toxicity  
No information available.

The following values are calculated based on chapter 3.1 of the GHS document

| ATEmix (oral) | 5 mg/kg |
| ATEmix (dermal) | 50 mg/kg |
| ATEmix (inhalation-dust/mist) | 0 mg/l |

12. ECOLOGICAL INFORMATION

Ecotoxicity  
May cause long lasting harmful effects to aquatic life.

100% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Persistence and degradability  
No information available.

Bioaccumulation  
No information available.

Mobility  
No information available.

13. DISPOSAL CONSIDERATIONS

Disposal of wastes  
Disposal should be in accordance with applicable regional, national and local laws and
Contaminated packaging regulations.
Other Information Do not reuse container.

Waste codes should be assigned by the user based on the application for which the product was used.

14. TRANSPORT INFORMATION

DOT
UN/ID no UN3249
Hazard Class 6.1
Packing Group II
Proper shipping name Medicine, solid, toxic, n.o.s.
Description UN3249, Medicine, solid, toxic, n.o.s., 6.1, II
Emergency Response Guide Number 151

IMDG
UN/ID no UN3249
Hazard Class 6.1
Packing Group II
Proper shipping name Medicine, solid, toxic, n.o.s.
Description UN3249, Medicine, solid, toxic, n.o.s., 6.1, II
Special Provisions 221
EmS-No F-A, S-A

IATA
UN/ID no UN3249
Hazard Class 6.1
Packing Group II
Proper shipping name Medicine, solid, toxic, n.o.s.
Description UN3249, Medicine, solid, toxic, n.o.s., 6.1, II
ERG Code 6L

15. REGULATORY INFORMATION

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

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive hazard Yes

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**US State Regulations**

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**
This product does not contain any substances regulated by state right-to-know regulations

**16. OTHER INFORMATION**

Revision note No information available

**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*