



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 16-Nov-2015

Version 1.1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Bendamustine Hydrochloride

Product Code SC-207320

Recommended use For research use only. Not intended for diagnostic or therapeutic use.

Company
 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

Signal word ATTENTION

Emergency Overview
 Contains a known or suspected mutagen
 Contains a known or suspected carcinogen
 Contains a known or suspected reproductive toxin
 Irritating to respiratory system
 May cause skin irritation and/or dermatitis
 Severe eye irritation
 Vapors may be irritating to eyes, nose, throat, and lungs
 Product dust may be irritating to eyes, skin and respiratory system

OSHA Regulatory Status
 This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Potential health effects
 Eyes Avoid contact with eyes. Risk of serious damage to eyes.
 Skin Irritating to skin. May cause inflammation. Avoid contact with skin.
 Inhalation Irritating to respiratory system. May cause irritation of respiratory tract.
 Ingestion Ingestion may cause irritation to mucous membranes.
 Chronic Toxicity Prolonged or repeated exposure increases the risk. Possible risk of irreversible effects. Avoid repeated exposure.

Hazards not otherwise classified (HNOC)
 Hazards not otherwise classified (HNOC) Not applicable

Environmental Hazard See Section 12: ECOLOGICAL INFORMATION.

NFPA	Health hazards	2		HMIS	Health hazards	2
	Flammability	1			Flammability	1
	Stability	0			Physical hazards	0
	Physical and chemical properties	-			Personal protection	-



3. COMPOSITION/INFORMATION ON INGREDIENTS

Product Name	Bendamustine Hydrochloride
Molecular Weight	394.72
Formula	C ₁₆ H ₂₁ Cl ₂ N ₃ O ₂ HCl

4. 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. Artificial respiration and/or oxygen may be necessary. Call a physician. 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.
Note to physicians	Treat symptomatically.
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 protect themselves and prevent spread of contamination.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Specific hazards arising from the chemical

Specific hazards arising from the chemical	Thermal decomposition can lead to release of toxic/corrosive gases and vapors.
Flammable properties	Not determined.
Flash point °C	307.7
Hazardous combustion products	Carbon oxides. Nitrogen oxides (NO _x). Phosgene.

Explosion data

Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

Protective equipment and precautions for firefighters

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



Personal precautions	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 for containment	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.
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. 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

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. Use with local exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice. Corrosive hazard. Wear protective gloves/clothing and eye/face protection. Thermal decomposition can lead to release of toxic/corrosive gases and vapors.
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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure controls

Engineering Controls	Showers Eyewash stations Ventilation systems
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Personal protective equipment (PPE)

Eye/face protection	Tight sealing safety goggles. Face protection shield.
Skin and Body Protection	Gloves made of plastic or rubber. Suitable protective clothing. Suitable protective clothing. Apron.
Respiratory protection	Ensure adequate ventilation, especially in confined areas.
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	crystalline
Odor	No information available

Property

<u>Values</u>	
pH	No information available
Melting point/freezing point	149 °C
Boiling point	585.2 °C
Flash point	307.7 °C
Density	No information available
Evaporation rate	No information available



Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	1.55E-14
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

10. STABILITY AND REACTIVITY

Reactivity	Not applicable
Stability	Stable under recommended storage conditions.
Incompatible materials	Incompatible with oxidizing agents.
Conditions to avoid	Heat, flames and sparks. Extremes of temperature and direct sunlight.
Hazardous Decomposition Products	Carbon oxides. Nitrogen oxides (NOx). Phosgene.
Hazardous polymerization	Hazardous polymerization does not occur

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

Chronic Toxicity

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

Target Organ Effects None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

Persistence and degradability No information available.

Bioaccumulation No information available.

13. DISPOSAL CONSIDERATIONS

Disposal considerations Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOT

UN/ID no UN2811



Hazard Class	6.1
Packing Group	III
Proper shipping name	Toxic solids, organic, n.o.s.
Description	UN2811, Toxic solids, organic, n.o.s. (Bendamustine Hydrochloride), 6.1, III
Emergency Response Guide Number	154

IATA

UN/ID no	UN2811
Hazard Class	6.1
Packing Group	III
Proper shipping name	Toxic solid, organic, n.o.s.
Description	UN2811, Toxic solid, organic, n.o.s. (Bendamustine Hydrochloride), 6.1, III
Special Provisions	A3,A5

IMDG

UN/ID no	UN2811
Hazard Class	6.1
Packing Group	III
Proper shipping name	Toxic solid, organic, n.o.s.
Description	UN2811, Toxic solid, organic, n.o.s. (Bendamustine Hydrochloride), 6.1, III
EmS-No	F-A, S-A

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	No

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

Mexico Regulatory Information**Canada Regulatory Information**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class Non-controlled

16. OTHER INFORMATION

Revision date 16-Nov-2015
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