300 Northfield Road
Bedford, OH 44146
Telephone: (800) 562-4797

MATERIAL SAFETY DATA SHEET

Section I - IDENTITY

Common/Trade Name: : Vecuronium Bromide (10mg and 20mg/vial)
Chemical Names: : : Vecuronium Bromide
Chemical Formula: $C_{34}H_{57}BrN_2O_4$ 1-(3-alpha,17-beta-diacetoxy-2-beta-piperidino-5-alpha-androstan-16-beta-y 1)-1-methyl-,bromide
Synonyms: Norcuron, NC-45
Manufacturer's Name: BEN VENUE LABORATORIES, INC.
Address: 300 NORTHFIELD ROAD
BEDFORD, OH 44146
Emergency Telephone Number: Chemtrec: 1(800) 424-9300
Telephone Number for Info.: (800) 562-4797
Medical Emergency: Professional Services: 1(800) 521-5169
Date Prepared: May 12, 2000
Date Revised: June 12, 2000
Date Revised: December 28, 2001
Date Revised: July 20, 2007

Section II - HAZARDOUS INGREDIENTS/COMPOSITION INFORMATION

Component	%	CAS#	OSHA PEL	ACGIH TLV	Other Limits Recommended
Vecuronium Bromide	6.94	50700-72-6	NONE	NONE	NONE
Citric Acid Anhydrous	14.42	77-92-9	NONE	NONE	NONE
Sodium Phosphate Anhydrous	11.28	96337-98-3	NONE	NONE	NONE
Mannitol	67.36	87-78-5	NONE	NONE	NONE

Vecuronium is a sterile parenteral injectable drug presented as a powder cake. It must be reconstituted with Sterile Water for Injection prior to administration.

Section III - HEALTH HAZARD DATA

Routes of Entry: Vecuronium Bromide may be absorbed through the skin, ingested, or inhaled.
Health Hazard (Acute & Chronic): Vecuronium is a drug product that is a smooth muscle relaxer used in association with general anesthesia when intubating patients. It affects the central nervous system and muscular systems
Carcinogenicity: **NTP?** NO **IARC Monographs?** None
OSHA Regulated? NO

Signs & Symptoms of Exposure: . Excessive exposure may induce paralysis with risks for respiratory failure and vomiting. It may also cause irritation of eyes, skin and respiratory tract. May cause dizziness, headache, weakness and loss of coordination.

Medical Conditions Generally Aggravated by Exposure:. May cause paralysis and a risk of respiratory failure. May cause nausea and vomiting.

BVL Hazard Category: 2

Section IV - FIRST AID MEASURES

Eye Exposure: Flush eyes with large volumes of water for 15 minutes.

Skin Exposure: Wash skin with cool, soapy water for 15 minutes; remove contaminated clothing.

Ingestion: If ingestion occurs, rinse mouth out with water and seek medical attention immediately. If person is conscious, induce vomiting. Never induce vomiting in an unconscious person. Neostigmine and atropine must be ready for instant use.

Inhalation: Remove to fresh air. If difficulty breathing, administer oxygen. Seek attention of a physician immediately. If necessary, provide artificial respiration.

Closely monitor airway and provide mechanical respiration as necessary.

Section V - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): Not Applicable **LEL:** NA **UEL:** NA

Flammable Limits: Not Applicable

Extinguishing Media: Use water or a type ABC multi-purpose extinguisher.

Special Fire Fighting Procedures: As with all fires, evacuate personnel to a safe area. Fire fighters should wear self-contained breathing apparatus to avoid inhalation of smoke.

Unusual Fire/Explosion Hazards: Ground mechanical equipment in contact with dry material to dissipate the potential build up of static electricity as prevention against dust explosion. Emits toxic fumes under fire conditions.

Section VI - ACCIDENTAL RELEASE INFORMATION

Release to Land: Lightly wet Vecuronium Bromide powder and absorb with a damp absorbent cloth. Dispose according to local, state, and federal regulations.

Release to Air: If dust enters air, reduce exposures by ventilating the area; clean up the spill immediately.

Release to Water: Refer to the local water authority. Drain disposal is not recommended; however, refer to local, state, and federal disposal guidelines.

Section VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled: See Section VI above. Wear double latex or nitrile gloves and safety glasses. A dust/mist respirator (N95) may be needed.

Waste Disposal Method: Incineration in an approved/permitted incinerator is recommended. Refer to local, state, and federal guidelines.

Precautions to be taken in handling and storing: Store at 15 to 25°C in well-closed containers protected from light and moisture.

Other Precautions: Handle carefully; prevent dust generation.

Section VIII - CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Under normal use, respirators are not needed. If dust generation is possible, a disposable dust/mist respirator (N95) should be worn. Personnel wearing respirators should be fit tested and approved for respirator use under the OSHA Respiratory Protection Standard, 29 CFR 1910.134.
Ventilation: Use with adequate ventilation such as a Class II Type A Biological Safety Cabinet
Protective Gloves: Nitrile or latex
Eye Protection: Safety glasses or goggles
Other Protective Clothing or Equipment: Lab coat with closed front, long sleeves.
Work/Hygienic Practices: Wash hands following use. No eating, drinking or smoking when handling Vecuronium Bromide.

Section IX - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical State: Solid
Specific Gravity: Not applicable
Appearance and Odor: White to off-white powder with no odor
Melting Point: Not available
Boiling Point: Not applicable
Evaporation Rate: Not applicable
Vapor Pressure: Not applicable
Solubility in Water: Water soluble
Vapor Density: Not applicable

Section X - STABILITY AND REACTIVITY DATA

Stability: Stable
Conditions to Avoid: Strong oxidizers
Incompatibility (Materials to Avoid): Avoid storing next to oxidizers
Hazardous Decomposition or Byproducts: When heated, products of combustion may include Hydrogen Bromide, nitrogen oxides, carbon monoxide and carbon dioxide.
Hazardous Polymerization: Will not occur.

Section XI - TOXICOLOGICAL INFORMATION

Toxicity data for Vecuronium Bromide: RTECS # TN4875000

- LD_{50} rat, oral = 455 mg/kg
- LD_{50} mouse, oral = 41mg/kg
- LD_{50} rat, interperitoneal = 2630 mcg/kg
- LD_{50} mouse, intraperitoneal = 142 mcg/kg
- TD_{LO} woman, oral = 130 mcg/kg
- LD_{50} rat, subcutaneous = 1730 mcg/kg
- LD_{50} rat, intravenous = 200 mcg/kg

Additional reproductive health and toxicity data is available from the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS).

Section XII - ENVIRONMENTAL IMPACT INFORMATION

Information is currently not available on the environmental impact of Vecuronium. Handle in a manner that prevents spills or releases to the environment.

Section XIII - DISPOSAL INFORMATION

Dispose of Sterile Vecuronium Bromide by incineration at an approved/permitted incinerator.
Review local, state, and federal regulations for your regulatory area.

Section XIV - TRANSPORTATION INFORMATION

Vecuronium Bromide is not a DOT Hazardous Material.
Vecuronium Bromide is not a DOT Marine Pollutant.

Section XV - REGULATORY INFORMATION

SARA 313 listed?: NO
CERCLA listed?: NO
RCRA listed?: NO

Section XVI - OTHER DATA

1. Use of this product should be through or under the direction of a physician.
   This MSDS does not address therapeutic use of this material.

2. Persons administering this drug to patients must be careful to avoid needle sticks to syringes and other sharps used in the administration. All needle sticks must be reported to your company management.

3. BVL Hazard Category Definitions (internal hazard ranking used by Ben Venue Laboratories):
   1 = Low Toxicity
   2 = Moderate Toxicity
   3 = Potent or Toxic
   4 = Highly Potent or Toxic
   5 = Extremely Potent or Toxic

4. OEL=Occupational Exposure Limit. An internal limit set by Ben Venue Laboratories for the recommended limit of employee exposure to airborne dusts or aerosols that should not be exceeded over an eight-hour time-weighted average.

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