

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Bort-AUS/DP-001

Effective Date: 26th April 2021

Bortezomib Powder for Injection 1 mg/vial and 3.5 mg/vial

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product Name: Bortezomib Powder for Injection 1 mg/vial and 3.5 mg/vial

Details of the Supplier of the Safety Data Sheet

Manufacturer:

Intas Pharmaceuticals Ltd.
Plot No. 5, 6 and 7, Pharmez,
Near village Matoda,
Sarkhej-Bavla National Highway No. 8-A,
Sanand Taluka, Ahmedabad, Gujarat, IN-
382213 India

Sponsor:

Accord Healthcare Pty Ltd
Level 24, 570 Bourke Street,
Melbourne, VIC, 3000,
Australia

SECTION 2 – COMPOSITION, INFORMATION ON INGREDIENTS

Components	CAS Number	Weight %	Synonyms	EINECS- No.	Classification
Mannitol	69-65-8	91	-	200-711-8	-
Bortezomib	179324-69-7	9	-	-	T+; R26/27/28 Xi; R36/38 T; R48/23/24

SECTION 3 - HAZARDS IDENTIFICATION

General hazard information : Cytotoxic drug.
Very toxic if inhaled, in contact with skin and if swallowed.
This product contains ingredients which may have reproductive effects.
Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
Irritating to eyes, respiratory system and skin.

Indication of danger : T+ - Very toxic.

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Most important hazards

Risk Phrases

- : R26/27/28 - Very toxic by inhalation, in contact with skin and if swallowed.
- R36/38 - Irritating to eyes and skin.
- R48/23/24 - Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.

Carcinogenicity rating:

EC:

- : None.

SECTION 4 - FIRST AID MEASURES

Eye contact

- : In the case of contact with eyes, rinse immediately with plenty of water for 15 minutes and seek medical attention.

Skin contact

- : After contact with skin, wash immediately with plenty of water. Immediately remove contaminated clothing and shoes and place in sealable, properly labeled waste disposal bag. Over bag into a sealable, properly labeled waste disposal bag. Material must be disposed of as hazardous drug waste. Seek medical attention if symptoms appear.

Ingestion

- : If ingested, seek medical attention immediately and show the label.

Inhalation

- : Move to fresh air immediately. If experiencing difficulty breathing, seek medical attention.

Notes to physician:

- : Treat symptomatically. Please refer to Monograph for Bortezomib Powder for Injection on medical monitoring guidelines for personnel working with cytotoxic compounds.

Protection for first

- : Please wear eye and skin protection.

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SECTION 5 - FIRE FIGHTING MEASURES

- Suitable extinguishing media** : Water fog or mist.
carbon dioxide (CO₂).
dry powder.
dry sand.
foam.
- Extinguishing media which must not be used for safety reasons** : None.
- Specific hazards:** : None
- Special protective equipment for firefighters** : Wear a self-contained breathing apparatus and full protective gear.
- Combustion products or resulting gases** : Carbon dioxide (CO₂)
Carbon monoxide
Nitrogen oxides (NO_x)
water

SECTION 6 - ACCIDENTAL RELEASE MEASURES

- Personal precautions** : For milligram quantities: Disposable dust impervious protective suit and shoe covers. Full face negative pressure respirator with HEPA (ABEK-P3 in EU) cartridges. Two pairs of FDA approved "chemo" gloves. The outer glove shall be taped to the jumpsuit.
For gram quantities: Clean-up personnel must wear self-contained breathing apparatus (SCBA) and totally encapsulated chemical resistant suit. Two pairs of FDA approved "chemo" gloves. The outer glove shall be taped to the jumpsuit. 2 pairs of gloves chemically-resistant to the decontamination solution/solvent. The outer glove shall be taped to the jumpsuit.
- Environmental Protection** : Do not allow significant quantities of product to enter drains, sewers or public waterways.
- Methods for cleaning up:** : Evacuate area.

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Next, use disposable towels moistened with an appropriate cleaning agent (i.e. solvent, detergent and water, etc.) to complete cleaning process. A designated HEPA vacuum can be used as an alternative cleaning method for large spills of powder. All waste must be placed in a sealable, properly labeled waste disposal bag. Over bag into a sealable, properly labeled waste disposal bag. Material must be disposed of as hazardous drug waste.

SECTION 7 - HANDLING AND STORAGE

Handling:

Technical measures : Handle and store per labelled instructions.

/precautions

Safe handling advice : Work only in a designated area. Handle on easily cleanable, nonporous, smooth surfaces. Refer to Section 8 for exposure controls and personal protection.

Storage:

Technical measures/storage conditions : Store in tightly sealed containers. Protect from moisture. Primary containers shall be overpacked into Nalgene or other sealed unbreakable containers. Appropriate warning labels shall be affixed to both containers. Compounds shall be transported only when overpacked as described above and on carts or transport devices that minimize the risk of spills. Primary containers shall be tightly sealed immediately after use. Sealed primary containers shall be handled only with gloves. Contamination of the exterior of the primary container should be exposed.

Incompatible products : No special restrictions on storage with other products.

Specific use(s): : None under normal use.

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SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits

Components	OEL (TWA – 8 hr)	OEL (STEL)	OEL (Ceiling)	PBOEL	ASL
Bortezomib (10%) 179324-69-7	530 ng/m ³	-	-	Category 4 Repro	0.2 µg/m ²

Exposure controls / personal protection

Engineering controls : Vented balance safety enclosures required for weighing/transferring or manipulating less than 200 milligram amount of dry solids. Glove box isolater required for greater than 200 milligram quantity manipulating of dry solids. All contaminant devices shall be exhausted directly following HEPA filtration.

Activities that can result in the generation or release of liquid aerosols, splatters or sprays require the use of the following containment devices:

- Directional laminar flow cabinets (vertical) equipped with HEPA filters.
- Type II B 2 biological safety cabinets.
- Glove box isolators.

Containment devices must be exhausted directly through a dedicated stack. Exhausted air may not be recirculated back to the room.

Directional laminar flow cabinets (vertical) shall also be used to control powder aerosols that may be released from vacuum ovens.

Respiratory protection : Engineering Controls are required for handling Category 4 compounds.

Respirators providing HEPA filtration (ABEK-P3 in EU) are required for dosing animals and for all related animal care activities, such as cage washing, handling excetera and bedding changes. Respirators shall also be used in the event of spills and for non-routine work activities, such as changing HEPA filters or cleaning biological safety cabinets. Please consult your local industrial hygienist to obtain the required respiratory protection and training if respirators are to be worn.

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- Hand protection** : Wear 2 pairs of nitrile gloves when handling as a solid or liquid formulation. When handling solutions, wear chemical-resistant gloves appropriate for the solvent(s) making up the solution.
- Eye protection** : Wear eye and face protection.
Safety glasses with side-shields recommended.
Goggles recommended if potential exists for direct exposure to dust or splashes
- Skin and body protection** : Wear disposable dust impervious protective suit and shoe covers.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

General Information

- Physical state** : Powder
Colour : White to off-white

Important Health Safety and Environmental Information

- Flash point** : Not applicable
pH : Not applicable
Water solubility : ± 80 mg/mL

Other information

- Melting point/range:** : 165 °C
Explosive properties: : Not applicable

SECTION 10 - STABILITY AND REACTIVITY

- Chemical stability:** : Stable under recommended storage conditions.
- Materials to avoid** : Strong oxidants.
Conditions to avoid : Heat, flames and sparks.
Avoid moisture.
- Hazardous Polymerization** : Hazardous polymerisation does not occur.

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SECTION 11 - TOXICOLOGY INFORMATION

Acute toxicity

Eye contact : May cause severe eye irritation.

Method : Based on component data.
(Bortezomib)

Skin contact : Causes skin irritation.
Very toxic in contact with skin.

Method : Based on component data.
(Bortezomib)

Ingestion : Very toxic if swallowed.
Oral dose at 0.7 mg/kg in female monkeys was fatal, but not in male monkey tested at this dose. IV data indicates significant potential to be toxic or lethal at doses < 2 mg/kg in rats and mice.

Inhalation : May be very toxic if inhaled.

Sub-Chronic / Chronic Toxicity

Application Route	Species	Dosing	Result
Intravenous (IV) administration	-	-	effects consistent with cytotoxic drugs (i.e. gastrointestinal (GI) Tract, blood, liver)

Specific effects

Target Organ(s) : gastrointestinal tract, liver, reproductive system , eyes, skin, blood, kidney

Reproductive effects : Resulted in impaired fertility in animal studies.

Developmental effects : Developmental studies in rats and rabbits resulted in embryo/fetal death only at maternally toxic dosages, but no direct toxicity to the embryo/fetus.

Carcinogenic effects : Not Available

Genotoxic effects : Not mutagenic.
Not clastogenic.

Method : microbial (Ames) mutagenicity assay
in vivo rodent micronucleus bone marrow assay
in vitro chromosomal aberrations assay
(chinese hamster ovary cells)

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SECTION 12 - ENVIRONMENTAL IMPACT INFORMATION

Ecotoxicity

- Ecotoxicity effects** : This product has no known eco-toxicological effects.
Aquatic toxicity effects : This product has no known aquatic toxicological effects.
- Persistence / degradability** : Unknown on product.
Bioaccumulation : Unknown on product.
Aquatic Toxicity : Unknown on product.

SECTION 13 - DISPOSAL INFORMATION

- Waste from residues / unused products** : Waste disposal must be in accordance with appropriate US, Federal, State and International regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.
- Contaminated packaging** : Empty packing materials should be handled according to local current procedures or according to local by-laws or national laws.

SECTION 14 - TRANSPORTATION INFORMATION

- IATA/ICAO ID/UN No.** : UN 3249
Proper shipping name : UN 3249, Medicine, toxic, solid n.o.s. (containing bortezomib), 6.1, II
Hazard class : 6.1
Packing group : PG II
IATA - label : Toxic (6.1)
- IMO/IMDG UN/Id No.** : UN3249
Proper shipping name : UN 3249, Medicine, toxic, solid n.o.s. (containing bortezomib), 6.1, II
Hazard class : 6.1
Packing group : PG II
IMDG-labels : Toxic (6.1)

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ADR/RID

ADR/RID UN/Id No. : UN 3249
Proper shipping name : UN 3249, Medicine, toxic, solid n.o.s. (containing bortezomib), 6.1, II
Hazard class/item No. letter : 6.1, PG II
ADR/RID-labels : Toxic (6.1)
TREM-card : 61GT2-II

SECTION 15 - REGULATORY INFORMATION

Indication of danger : T+ - Very toxic.

Contains : Bortezomib



R -phrase(s)

R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed.
R36/38	Irritating to eyes and skin.
R48/23/24	Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.

S -phrase(s)

S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28	After contact with skin, wash immediately with plenty of water and soap.
S38	In case of insufficient ventilation, wear suitable respiratory equipment.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S53	Avoid exposure - obtain special instructions before use.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.

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SECTION 16 - OTHER DATA

Additional advice: : Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

Text of R phrases mentioned in Section 2 and 3

R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed.
R36/38	Irritating to eyes and skin.
R48/23/24	Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.

Data Sources: Publicly available toxicity information. Safety data sheets for individual ingredients.

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