

PS-341

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MATERIAL SAFETY DATA SHEET

SECTION 1: CHEMICAL IDENTIFICATION

PRODUCT CODE: PS-341
NAME: N-(2-Pyrazinecarbonyl)-L-Phenylalanine-L-Leucine Boronic Anhydride

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

CAS #: 179324-69-7
MF: C₁₉H₂₅BN₄O₄

SECTION 3: HAZARDS IDENTIFICATION

LABEL PRECAUTIONARY STATEMENTS

CAUTION:
THE TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED. THE MATERIAL IS KNOWN TO BE TOXIC AT LOW DOSES (0.3 MG/KG) WHEN ADMINISTERED I.V. TO RODENTS.
EXERCISE DUE CARE: WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.
KEEP FROZEN (T ≤ 15 °C).

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SECTION 4: FIRST AID MEASURES

IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN IMMEDIATELY.

IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN IMMEDIATELY.

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN IMMEDIATELY.

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN OR EYES.

UNUSUAL FIRE AND EXPLOSION HAZARDS

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7: STORAGE

KEEP TIGHTLY CLOSED.
KEEP FROZEN (T ≤ 15 °C).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

CHEMICAL SAFETY GOGGLES.
RUBBER GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
DO NOT BREATH DUST.
DO NOT GET IN EYES, ON SKIN OR CLOTHING.
WASH THOROUGHLY AFTER HANDLING.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR
WHITE TO OFF-WHITE AMORPHOUS POWDER

PHYSICAL PROPERTIES
MOLECULAR WEIGHT: 384.25 DALTONS
MELTING POINT: 117°C TO 121°C

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Leucine Boronic Anhydride

SECTION 10: ACCIDENTAL RELEASE MEASURES

INCOMPATIBILITIES

OXIDIZING AGENTS STRONG REDUCING AGENTS
STRONG BASES.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE,
NITROGEN OXIDES, BORIC ACID.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE EFFECTS:

MAY BE HARMFUL BY INHALATION, INGESTION OR SKIN ABSORPTION.
PROBABLE EYE IRRITANT. EYE IRRITATION STUDY NOT CONDUCTED
DUE TO SEVERITY OF OBSERVED DERMAL IRRITATION.

PS-341 (0.5G) WAS DETERMINED TO BE A SEVERE SKIN IRRITANT AND
CORROSIVE MATERIAL IN ACUTE DERMAL IRRITATION STUDY.

TOXICITY DATA FROM SINGLE DOSE STUDIES:

I.V.-MOUSE LD30:	3.0 MG/KG
I.V.-RAT LD20:	0.3 MG/KG
I.V.-DOG LD100:	0.36 MG/KG
I.V.-MONKEY LD100:	0.25 MG/KG
ORAL-MONKEY LD50:	0.7 MG/KG
I.V.-MOUSE MTD:	1.0 MG/KG
I.V.-RAT MTD:	0.25 MG/KG
I.V.-DOG MTD:	0.3 MG/KG
I.V.-MONKEY MTD:	0.2 MG/KG
ORAL-MONKEY MTD:	0.5 MG/KG

TOXICITY DATA FROM REPEAT DOSE STUDIES:

I.V.-RATS MTD:	0.1 MG/KG
I.V.-MONKEYS MTD:	0.075 MG/KG
I.V.-PREGNANT RATS MTD:	0.05 MG/KG

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SECTION 11: TOXICOLOGICAL INFORMATION (CONTINUED)

MUTAGENICITY:

NEGATIVE; BACTERIAL MUTATION ASSAY
NEGATIVE; MOUSE MICRONUCLEUS ASSAY
POSITIVE; IN VITRO CHO CHROMOSOMAL ABERRATION ASSAY FOR
STRUCTURAL INDUCTION OF CHROMOSOME ABERRATIONS

SYSTEMIC TOXICITY FROM REPEAT DOSE STUDIES:

RAT: IV AT DOSES ≥ 0.1 MG/KG, HISTOPATH ALTERATIONS TO KIDNEY,
COLON, THYMUS, MESENTERIC LYMPH NODES AND URINARY BLADDER.
NON-HUMAN PRIMATES: IV AT DOSES ≥ 0.067 MG/KG, EMESIS, DIARRHEA
AND INAPPETANCE, DECREASED RBC PARAMETERS AND ALTERATIONS
TO WBCs; AT 0.1 MG/KG; HYPOACTIVITY, NERVE DAMAGE, DAMAGE TO
KIDNEYS AND SPLEEN.

REPRODUCTIVE PERFORMANCE/FERTILITY:

UNKNOWN

TERATOGENICITY:

UNKNOWN

CARCINOGENICITY:

NTP: NOT CONDUCTED
IARC: NOT CONDUCTED
OSHA: NOT CONDUCTED

THE TOXICOLOGICAL PROPERTIES HAVE NOT YET BEEN THOROUGHLY
INVESTIGATED.

SECTION 12: ECOLOGICAL INFORMATION

NOT CONDUCTED

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SECTION 13: DISPOSAL CONSIDERATIONS

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14: TRANSPORT CONSIDERATIONS

TRANSPORT IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION 15: REGULATORY INFORMATION

THIS MATERIAL IS NOT LISTED ON THE US TSCA INVENTORY. THEREFORE, IT CAN ONLY BE USED FOR TSCA EXEMPT PURPOSES SUCH AS R&D, DRUG OR VETERINARY USE.

SECTION 16: OTHER INFORMATION

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL-INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. MILLENNIUM PHARMACEUTICALS, INC SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT.
