

BIO BASIC INC.

160 TORBAY ROAD, MARKHAM ONTARIO L3R 1G6 CANADA
TEL: (905) 474 4493, (800) 313 7224 FAX: (905) 474 5794

MATERIAL SAFETY DATA SHEET

REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

MANUFACTURER'S NAME: BIO BASIC INC.
TEL: (905) 474 4493
FAX: (905) 474 5794
FOR CHEMICAL EMERGENCY: (416) 995 9730
ADDRESS: 160 TORBAY ROAD, MARKHAM ONTARIO L3R 1G6 CANADA

DATE PREPARED: AUGUST 6, 2007

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME 6-MERCAPTOPURINE
PRODUCT NUMBER M714163

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENT

SUBSTANCE NAME CAS # SARA 313
6-MERCAPTOPURINE 6112-76-1 NO
FORMULA C5H4N4S · H2O
SYNONYMS 1,7-DIHYDRO-6H-PURINE-6-THIONE MONOHYDRATE *
1,7-DIHYDRO-6H-PURIN-6-THION, MONOHYDRAT (CZECH)
* 6-MERCAPTOPURINE MONOHYDRATE * 6-MERKAPTOPURIN,
MONOHYDRAT (CZECH) * 6H-PURINE-6-THIONE,
1,7-DIHYDRO-, MONOHYDRATE (9CI) * PURIN-6-THIOL,
MONOHYDRAT (CZECH) * 6H-PURIN-6-THION, MONOHYDRAT
(CZECH)
RTECS NUMBER: UP0400000

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HARMFUL.

HARMFUL IF SWALLOWED. IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

TARGET ORGAN(S): LIVER. BONE MARROW. CALIF. PROP. 65 DEVELOPMENTAL HAZARD.

HMIS RATING

HEALTH: 2*

FLAMMABILITY: 0

REACTIVITY: 0

NFPA RATING

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 0

*ADDITIONAL CHRONIC HAZARDS PRESENT.

FOR ADDITIONAL INFORMATION ON TOXICITY, PLEASE REFER TO SECTION 11.

SECTION 4 - FIRST AID MEASURES

ORAL EXPOSURE

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

INHALATION EXPOSURE

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

DERMAL EXPOSURE

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

EYE EXPOSURE

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.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

SUITABLE: WATER SPRAY. CARBON DIOXIDE, DRY CHEMICAL POWDER, OR APPROPRIATE FOAM.

FIREFIGHTING

PROTECTIVE EQUIPMENT: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES. SPECIFIC HAZARD(S): EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

EVACUATE AREA.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS, AND HEAVY RUBBER GLOVES.

METHODS FOR CLEANING UP

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 - HANDLING AND STORAGE

HANDLING

USER EXPOSURE: DO NOT BREATHE DUST. AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. AVOID PROLONGED OR REPEATED EXPOSURE.

STORAGE

SUITABLE: KEEP TIGHTLY CLOSED.

SECTION 8 - EXPOSURE CONTROLS / PPE

ENGINEERING CONTROLS

SAFETY SHOWER AND EYE BATH. MECHANICAL EXHAUST REQUIRED.

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY: USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU). WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A DUST MASK TYPE N95 (US) OR TYPE P1 (EN 143) RESPIRATOR.

HAND: COMPATIBLE CHEMICAL-RESISTANT GLOVES.

EYE: CHEMICAL SAFETY GOGGLES.

GENERAL HYGIENE MEASURES

WASH THOROUGHLY AFTER HANDLING.

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE PHYSICAL STATE: SOLID

COLOR: LIGHT YELLOW
FORM: POWDER
PROPERTY VALUE AT TEMPERATURE OR PRESSURE
MOLECULAR WEIGHT 170.19 AMU
PH N/A
BP/BP RANGE N/A
MP/MP RANGE 315 °C
FREEZING POINT N/A
VAPOR PRESSURE N/A
VAPOR DENSITY N/A
SATURATED VAPOR CONC. N/A
SG/DENSITY N/A
BULK DENSITY N/A
ODOR THRESHOLD N/A
VOLATILE% N/A
VOC CONTENT N/A
WATER CONTENT N/A
SOLVENT CONTENT N/A
EVAPORATION RATE N/A
VISCOSITY N/A
SURFACE TENSION N/A
PARTITION COEFFICIENT N/A
DECOMPOSITION TEMP. N/A
FLASH POINT N/A
EXPLOSION LIMITS N/A
FLAMMABILITY N/A
AUTOIGNITION TEMP N/A
REFRACTIVE INDEX N/A
OPTICAL ROTATION N/A
MISCELLANEOUS DATA N/A
SOLUBILITY N/A
N/A = NOT AVAILABLE

SECTION 10 - STABILITY AND REACTIVITY

STABILITY

STABLE: STABLE.

MATERIALS TO AVOID: STRONG OXIDIZING AGENTS, STRONG BASES, STRONG ACIDS.

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, NITROGEN OXIDES, SULFUR OXIDES.

HAZARDOUS POLYMERIZATION

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION 11 - TOXICOLOGICAL INFORMATION

ROUTE OF EXPOSURE

SKIN CONTACT: CAUSES SKIN IRRITATION.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.

EYE CONTACT: CAUSES EYE IRRITATION.

INHALATION: MAY BE HARMFUL IF INHALED. MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

INGESTION: HARMFUL IF SWALLOWED.

TARGET ORGAN(S) OR SYSTEM(S)

IMMUNE SYSTEM. LIVER. BONE MARROW.

SIGNS AND SYMPTOMS OF EXPOSURE

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

TOXICITY DATA

ORAL
MOUSE
1250 MG/KG
LD50
INTRAPERITONEAL
MOUSE
224 MG/KG
LD50
IARC CARCINOGEN LIST
RATING: GROUP 3 GROUP 3
CHRONIC EXPOSURE - TERATOGEN
RESULT: LABORATORY EXPERIMENTS HAVE SHOWN TERATOGENIC EFFECTS.
SPECIES: RAT
DOSE: 27500 UG/KG
ROUTE OF APPLICATION: INTRAPERITONEAL
EXPOSURE TIME: (11D PREG)
RESULT: SPECIFIC DEVELOPMENTAL ABNORMALITIES: MUSCULOSKELETAL SYSTEM. EFFECTS ON EMBRYO OR FETUS: FETOTOXICITY (EXCEPT DEATH, E.G., STUNTED FETUS). EFFECTS ON EMBRYO OR FETUS: EXTRA EMBRYONIC STRUCTURES (E.G., PLACENTA, UMBILICAL CORD).
SPECIES: MOUSE
DOSE: 500 MG/KG
ROUTE OF APPLICATION: INTRAPERITONEAL
EXPOSURE TIME: (40D MALE)
RESULT: EFFECTS ON EMBRYO OR FETUS: FETAL DEATH.
CHRONIC EXPOSURE - MUTAGEN
SPECIES: MOUSE
ROUTE: ORAL
DOSE: 50 MG/KG
MUTATION TEST: MICRONUCLEUS TEST
SPECIES: MOUSE
ROUTE: INTRAPERITONEAL
DOSE: 12500 UG/KG
MUTATION TEST: MICRONUCLEUS TEST
SPECIES: MOUSE
ROUTE: INTRAPERITONEAL
DOSE: 500 MG/KG
EXPOSURE TIME: 40D
MUTATION TEST: DOMINANT LETHAL TEST
CHRONIC EXPOSURE - REPRODUCTIVE HAZARD
SPECIES: MOUSE
DOSE: 250 MG/KG
ROUTE OF APPLICATION: INTRAPERITONEAL
EXPOSURE TIME: (5D MALE)
RESULT: EFFECTS ON FERTILITY: MALE FERTILITY INDEX (E.G., # MALES IMPREGNATING FEMALES PER # MALES EXPOSED TO FERTILE NONPREGNANT FEMALES).
SPECIES: HAMSTER
DOSE: 4 MG/KG
ROUTE OF APPLICATION: INTRAPERITONEAL
EXPOSURE TIME: (6-9D PREG)
RESULT: EFFECTS ON FERTILITY: LITTER SIZE (E.G.; # FETUSES PER LITTER; MEASURED BEFORE BIRTH). EFFECTS ON FERTILITY: POST-IMPLANTATION MORTALITY (E.G., DEAD AND/OR RESORBED IMPLANTS PER TOTAL NUMBER OF IMPLANTS). EFFECTS ON EMBRYO OR FETUS: FETAL DEATH.

SECTION 12 - ECOLOGICAL INFORMATION

NO DATA AVAILABLE.

SECTION 13 - DISPOSAL CONSIDERATIONS

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL. 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 INFORMATION

DOT

PROPER SHIPPING NAME: NONE

NON-HAZARDOUS FOR TRANSPORT: THIS SUBSTANCE IS CONSIDERED TO BE NON-HAZARDOUS FOR TRANSPORT.

IATA

NON-HAZARDOUS FOR AIR TRANSPORT: NON-HAZARDOUS FOR AIR TRANSPORT.

SECTION 15 - REGULATORY INFORMATION

EU ADDITIONAL CLASSIFICATION

SYMBOL OF DANGER: XN

INDICATION OF DANGER: HARMFUL.

R: 22-36/37/38

RISK STATEMENTS: HARMFUL IF SWALLOWED. IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

S: 22-36/37/39-45

SAFETY STATEMENTS: DO NOT BREATHE DUST. WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES, AND EYE/FACE PROTECTION. IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

US CLASSIFICATION AND LABEL TEXT

INDICATION OF DANGER: HARMFUL.

RISK STATEMENTS: HARMFUL IF SWALLOWED. IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

SAFETY STATEMENTS: IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES, AND EYE/FACE PROTECTION. DO NOT BREATHE DUST.

US STATEMENTS: TARGET ORGAN(S): LIVER. BONE MARROW. CALIF. PROP. 65 DEVELOPMENTAL HAZARD.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: NO

UNITED STATES - STATE REGULATORY INFORMATION

CALIFORNIA PROP - 65

CALIFORNIA PROP - 65: THIS PRODUCT IS OR CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE DEVELOPMENTAL TOXICITY.

CANADA REGULATORY INFORMATION

WHMIS CLASSIFICATION: THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR, AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

DSL: NO

NDSL: NO

SECTION 16 - OTHER INFORMATION

DISCLAIMER

FOR R&D USE ONLY. NOT FOR DRUG, HOUSEHOLD OR OTHER USES.

WARRANTY

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. THE INFORMATION IN THIS DOCUMENT IS BASED ON THE PRESENT STATE OF OUR KNOWLEDGE AND IS APPLICABLE TO THE PRODUCT WITH REGARD TO APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT ANY GUARANTEE OF THE PROPERTIES OF THE PRODUCT. BIOBASIC, SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE. COPYRIGHT 2007 BIOBASIC. LICENSE GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.