

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: JULY 27, 2007

SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME CHLORTETRACYCLINE HYDROCHLORIDE
PRODUCT NUMBER CB0297

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENT

SUBSTANCE NAME	CAS #	SARA 313
CHLOROTETRACYCLINE HYDROCHLORIDE	64-72-2	NO

FORMULA C₂₂H₂₃CLN₂O₈.CLH
SYNONYMS AUREOCICLINA * AUREOCYCLINE * AUREOMYCIN
HYDROCHLORIDE * AUXEOMYCIN * CHLOROTETRACYCLINE
HYDROCHLORIDE * CHLORTETRACYCLINE HYDROCHLORIDE *
CLOROTETRACICLINA CLORIDRATO (ITALIAN) *
ISPHAMYCIN * NSC-13252 * U-6780
RTECS NUMBER: QI7800000

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IRRITANT.

IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

TARGET ORGAN(S): TEETH. BONES.

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 CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS
AMOUNTS OF WATER.

EYE EXPOSURE

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

SUITABLE: NONCOMBUSTIBLE. USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.

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(S) OF PERSONAL PRECAUTION(S)

WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, 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.

STORE AT -20°C

SECTION 8 - EXPOSURE CONTROLS / PPE

ENGINEERING CONTROLS

SAFETY SHOWER AND EYE BATH. USE ONLY IN A CHEMICAL FUME HOOD.

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. WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE PHYSICAL STATE: SOLID

PROPERTY VALUE AT TEMPERATURE OR PRESSURE

MOLECULAR WEIGHT 515 AMU

PH N/A

BP/BP RANGE N/A

MP/MP RANGE 243.0 - 247.0 °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.

CONDITIONS OF INSTABILITY: MAY DISCOLOR ON EXPOSURE TO LIGHT.

MATERIALS TO AVOID: STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE,
NITROGEN OXIDES, HYDROGEN CHLORIDE GAS.

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

INGESTION: MAY BE HARMFUL IF SWALLOWED.

SENSITIZATION

SENSITIZATION: PROLONGED OR REPEATED EXPOSURE MAY CAUSE ALLERGIC
REACTIONS IN CERTAIN SENSITIVE INDIVIDUALS.

TARGET ORGAN(S) OR SYSTEM(S)

LIVER. TEETH. BONES.

SIGNS AND SYMPTOMS OF EXPOSURE

NAUSEA, VOMITING, DIARRHEA. EXPOSURE CAN CAUSE: TO THE BEST OF
OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL
PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

TOXICITY DATA

INTRAPERITONEAL

RAT

335 MG/KG

LD50

REMARKS: BEHAVIORAL: CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD.
LUNGS, THORAX, OR RESPIRATION: RESPIRATORY STIMULATION.

INTRAVENOUS

RAT

100 MG/KG

LD50

ORAL

MOUSE

2314 MG/KG

LD50

INTRAPERITONEAL

MOUSE

197 MG/KG

LD50

INTRAVENOUS

MOUSE

100 MG/KG

LD50

CHRONIC EXPOSURE - TERATOGEN

RESULT: LABORATORY EXPERIMENTS HAVE SHOWN TERATOGENIC EFFECTS.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

SPECIES: MOUSE

DOSE: 1125 MG/KG

ROUTE OF APPLICATION: SUBCUTANEOUS

EXPOSURE TIME: (10-18D PREG)

RESULT: EFFECTS ON NEWBORN: VIABILITY INDEX (E.G., # ALIVE AT
DAY 4 PER # BORN ALIVE). EFFECTS ON NEWBORN: GROWTH STATISTICS
(E.G., REDUCED WEIGHT GAIN).

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: XI

INDICATION OF DANGER: IRRITANT.

R: 36/37/38

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

S: 26

SAFETY STATEMENTS: IN CASE OF CONTACT WITH EYES, RINSE
IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

US CLASSIFICATION AND LABEL TEXT

INDICATION OF DANGER: IRRITANT.

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

SAFETY STATEMENTS: IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE. WEAR SUITABLE PROTECTIVE CLOTHING.

US STATEMENTS: TARGET ORGAN(S): TEETH. BONES.

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.