

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 16, 2007

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: URIDINE-5'-TRIPHOSPHATE (UTP)
CATALOG CODE: UB1341
CAS#: 19817-92-6
RTECS: YU8083000
TSCA: TSCA 8(B) INVENTORY : NO PRODUCTS WERE FOUND.
CI#: NOT AVAILABLE.
SYNONYM: NOT AVAILABLE.
CHEMICAL NAME: UTP URIDINE-5'-TRIPHOSPHATE, TRISODIUM SALT
CHEMICAL FORMULA: C₉H₁₂N₂O₁₅P₃NA₃

SECTION 2: COMPOSITION AND INFORMATION ON INGREDIENTS

COMPOSITION:
NAME CAS# % BY WEIGHT
URIDINE-5'-TRIPHOSPHATE 19817-92-6 -
TOXICOLOGICAL DATA ON INGREDIENTS:
NOT AVAILABLE.

SECTION 3: HAZARDS IDENTIFICATION

POTENTIAL ACUTE HEALTH EFFECTS: TOXIC (USA) HARMFUL (EU).
TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED. TOXIC: DANGER OF VERY SERIOUS
IRREVERSIBLE EFFECTS THROUGH
INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED. IRRITATING TO EYES AND SKIN.
TARGET ORGAN(S): EYES. NERVES.
POTENTIAL CHRONIC HEALTH EFFECTS:
CARCINOGENIC EFFECTS: NOT AVAILABLE.
MUTAGENIC EFFECTS: NOT AVAILABLE.
TERATOGENIC EFFECTS: NOT AVAILABLE.
DEVELOPMENTAL TOXICITY: NOT AVAILABLE.

SECTION 4: FIRST AID MEASURES

EYE CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER
FOR AT LEAST 15 MINUTES.
SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS
OF WATER.
SERIOUS SKIN CONTACT: WASH WITH A DISINFECTANT SOAP AND COVER THE CONTAMINATED SKIN
WITH AN ANTI-BACTERIAL CREAM. SEEK
MEDICAL ATTENTION.
INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF
BREATHING IS DIFFICULT, GIVE OXYGEN.
SERIOUS INHALATION: NOT AVAILABLE.

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

SERIOUS INGESTION: NOT AVAILABLE.

SECTION 5: FIRE AND EXPLOSION DATA

FLAMMABILITY OF THE PRODUCT: MAY BE COMBUSTIBLE AT HIGH TEMPERATURE.

AUTO-IGNITION TEMPERATURE: NOT AVAILABLE.

FLASH POINTS: 113 °C (235 °F) CLOSED CUP

FLAMMABLE LIMITS: NOT AVAILABLE.

PRODUCT OF COMBUSTION: CARBON MONOXIDE, CARBON DIOXIDE, NITROGEN OXIDES, PHOSPHOROUS OXIDES.

FIRE HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES: NOT AVAILABLE.

EXPLOSION HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES:

RISKS OF EXPLOSION OF THE PRODUCT IN PRESENCE OF MECHANICAL IMPACT: NOT AVAILABLE.

RISKS OF EXPLOSION OF THE PRODUCT IN PRESENCE OF STATIC DISCHARGE: NOT AVAILABLE.

FIRE FIGHTING MEDIA AND INSTRUCTIONS:

SMALL FIRE: DRY CHEMICAL POWDER.

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

SPECIAL REMARKS ON FIRE HAZARDS: NOT AVAILABLE.

SPECIAL REMARKS ON EXPLOSION HAZARDS: NOT AVAILABLE.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SMALL SPILL: SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST.

VENTILLATE AREA AND WASH SPILL SITE

AFTER MATERIAL PICK UP IS COMPLETE.

LARGE SPILL: USE A SHOVEL TO PUT THE MATERIAL INTO A CONVENIENT WASTE DISPOSAL

CONTAINER. FINISH CLEANING BY SPREADING

WATER ON THE CONTAMINATED SURFACE AND ALLOW TO EVACUATE THROUGH THE SANITARY SYSTEM.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS: DO NOT BREATHE DUST. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. AVOID PROLONGED OR REPEATED EXPOSURE.

STORAGE: KEEP TIGHTLY CLOSED. STORE AT -20°C

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: SAFETY SHOWER AND EYE BATH. MECHANICAL EXHAUST REQUIRED.

PERSONAL PROTECTION: RESPIRATORY : GOVERNMENT APPROVED RESPIRATOR.

HAND: CHEMICAL RESISTANT GLOVES.

EYE: SAFETY GLASSES.

PERSONAL PROTECTION IN CASE OF A LARGE SPILL: SPLASH GOGGLES. FULL SUIT. BOOTS. DUST

RESPIRATOR. GLOVES.

EXPOSURE LIMITS: NOT AVAILABLE.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE AND APPEARANCE: SOLID. (SOLID POWDER.)

ODOR: NOT AVAILABLE.

TASTE: NOT AVAILABLE.

MOLECULAR WEIGHT: 550.1 G/MOLE

COLOR: WHITE.

PH(1% SOLN/WATER): NOT AVAILABLE.

BOILING POINT: NOT AVAILABLE.

MELTING POINT: 140 °C

CRITICAL TEMPERATURE: NOT AVAILABLE.

SPECIFIC GRAVITY: NOT AVAILABLE.

VAPOUR PRESSURE: NOT AVAILABLE.

VAPOR DENSITY: NOT AVAILABLE.

VOLATILITY: NOT AVAILABLE.

ODOR THRESHOLD: NOT AVAILABLE.
WATER/OIL DIST. COEFF: NOT AVAILABLE.
IONICITY (IN WATER): NOT AVAILABLE.
DISPERSION PROPERTIES: NOT AVAILABLE.
SOLUBILITY: EASILY SOLUBLE IN COLD WATER.

SECTION 10: STABILITY AND REACTIVITY DATA

STABILITY: STABLE.
INSTABILITY TEMPERATURE: NOT AVAILABLE.
CONDITIONS OF INSTABILITY: NOT AVAILABLE.
INCOMPATIBILITY WITH VARIOUS SUBSTANCES: STRONG OXIDIZING AGENTS.
CORROSIVITY: NOT AVAILABLE.
SPECIAL REMARKS ON REACTIVITY: NOT AVAILABLE.
SPECIAL REMARKS ON CORROSIVITY: NOT AVAILABLE.
POLYMERIZATION: WILL NOT OCCUR.

SECTION 11: TOXICOLOGICAL INFORMATION

ROUTES OF ENTRY: SKIN CONTACT. EYE CONTACT. INGESTION. INHALATION.
TOXICITY TO ANIMALS:
NOT AVAILABLE.
CHRONIC EFFECTS ON HUMANS: NOT AVAILABLE.
OTHER TOXIC EFFECTS ON HUMANS: SKIN CONTACT: MAY CAUSE SKIN IRRITATION.
SKIN ABSORPTION: HARMFUL IF ABSORBED THROUGH SKIN.
EYE CONTACT: MAY CAUSE EYE IRRITATION.
INHALATION: MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT. HARMFUL IF INHALED.
INGESTION: HARMFUL IF SWALLOWED.
SPECIAL REMARKS ON TOXICITY TO ANIMALS: NOT AVAILABLE.
SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS: NOT AVAILABLE.
SPECIAL REMARKS ON OTHER TOXIC EFFECTS ON HUMANS: DROWSINESS. CONFUSION. WEAKNESS. UNCONSCIOUSNESS. MAY CAUSE CONVULSIONS. TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED. EXPOSURE MAY CAUSE: METHYL ALCOHOL MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. CANNOT BE MADE NON-POISONOUS. GASTROINTESTINAL DISTURBANCES. NAUSEA, HEADACHE, AND VOMITING. DIZZINESS.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: NOT AVAILABLE.
BOD5 AND COD: NOT AVAILABLE.
PRODUCT OF BIODEGRADATION: NOT AVAILABLE.
TOXICITY OF THE PRODUCTS OF BIODEGRADATION: THE PRODUCT ITSELF AND ITS PRODUCTS OF DEGRADATION ARE NOT TOXIC.
SPECIAL REMARKS ON THE PRODUCTS OF BIODEGRADATION: NOT AVAILABLE.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: 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

IDENTIFICATION: NOT AVAILABLE.
SPECIAL PROVISIONS FOR TRANSPORT: NOT AVAILABLE.
DOT CLASSIFICATION: NOT A DOT CONTROLLED MATERIAL.

SECTION 15: OTHER REGULATORY INFORMATION

FEDERAL AND STATE REGULATIONS: TSCA 8(B) INVENTORY : NO PRODUCTS WERE FOUND.

OTHER REGULATIONS: EU ADDITIONAL CLASSIFICATION

SYMBOL OF DANGER: XN

INDICATION OF DANGER: HARMFUL.

R: 20/21/22-68/20/21/22

RISK STATEMENTS: HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED. HARMFUL:
POSSIBLE RISK OF IRREVERSIBLE EFFECTS

THROUGH INHALATION, IN CONTACT WITH SKIN, AND IF SWALLOWED.

S: 22-26-36

SAFETY STATEMENTS: DO NOT BREATHE DUST. IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY
WITH PLENTY OF WATER AND SEEK
MEDICAL ADVICE. WEAR SUITABLE PROTECTIVE CLOTHING.

OTHER CLASSIFICATIONS:

WHMIS(CANADA): NOT AVAILABLE.

DSCL(EEC): NOT AVAILABLE.

HMIS(U.S.A):

HEALTH HAZARD: 2

FIRE HAZARD: 0

REACTIVITY: 0

PERSONAL PROTECTION:

NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A):

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 0

SPECIFIC HAZARD:

PROTECTIVE EQUIPMENT: GLOVES. LAB COAT. DUST RESPIRATOR. BE SURE TO USE AN
APPROVED/CERTIFIED RESPIRATOR OR EQUIVALENT.

SAFETY GOGGLES.

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.