

## BIO BASIC INC.

160 TORBAY ROAD, MARKHAM ONTARIO L3R 1G6 CANADA  
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### MATERIAL SAFETY DATA SHEET

REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

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DATE PREPARED: AUGUST 9, 2007

#### SECTION 1 - PRODUCT AND COMPANY INFORMATION

PRODUCT NAME GLUTATHIONE REDUCTASE FROM BAKERS YEAST  
PRODUCT NUMBER Y46540005

#### SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENT

SUBSTANCE NAME CAS # SARA 313  
GLUTATHIONE REDUCTASE, IN 3.6M NONE NO  
AMMONIUM SULFATE SOLUTION  
INGREDIENT NAME CAS # PERCENT SARA 313  
WATER 7732-18-5 >= 66.76 NO  
<= 67.76  
AMMONIUM SULFATE 7783-20-2 32.235 NO  
GLUTATHIONE REDUCTASE 9001-48-3 <= 1 NO  
(D,L)-DITHIOTHREITOL 3483-12-3 0.001 NO

#### SECTION 3 - HAZARDS IDENTIFICATION

HMIS RATING  
HEALTH: 0  
FLAMMABILITY: 0  
REACTIVITY: 0  
NFPA RATING  
HEALTH: 0  
FLAMMABILITY: 0  
REACTIVITY: 0

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 BREATHING BECOMES DIFFICULT,  
CALL A PHYSICIAN.

##### DERMAL EXPOSURE

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

##### 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

METHODS FOR CLEANING UP

ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7 - HANDLING AND STORAGE

HANDLING

USER EXPOSURE: AVOID INHALATION. AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. AVOID PROLONGED OR REPEATED EXPOSURE.

STORAGE

SUITABLE: KEEP TIGHTLY CLOSED.

STORE AT 2-8°C

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). RESPIRATORY PROTECTION IS NOT REQUIRED. WHERE PROTECTION IS DESIRED, USE MULTI-PURPOSE COMBINATION (US) OR TYPE ABEK (EN 14387) RESPIRATOR CARTRIDGES.

HAND: PROTECTIVE GLOVES.

EYE: CHEMICAL SAFETY GOGGLES.

GENERAL HYGIENE MEASURES

WASH THOROUGHLY AFTER HANDLING.

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE PHYSICAL STATE: LIQUID

PROPERTY VALUE AT TEMPERATURE OR PRESSURE

MOLECULAR WEIGHT N/A

PH N/A

BP/BP RANGE N/A

MP/MP RANGE N/A

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.

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS DECOMPOSITION PRODUCTS: NATURE OF DECOMPOSITION PRODUCTS  
NOT KNOWN.

HAZARDOUS POLYMERIZATION

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

#### SECTION 11 - TOXICOLOGICAL INFORMATION

##### ROUTE OF EXPOSURE

SKIN CONTACT: MAY CAUSE SKIN IRRITATION.

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

EYE CONTACT: MAY CAUSE EYE IRRITATION.

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

INGESTION: MAY BE HARMFUL IF SWALLOWED.

SIGNS AND SYMPTOMS OF EXPOSURE

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

#### 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  
UNITED STATES REGULATORY INFORMATION

SARA LISTED: NO

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: YES

NDSL: NO

SECTION 16 - OTHER INFORMATION

DISCLAIMER

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

WARRANTY

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