

**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

MANUFACTURER'S NAME: BIO BASIC INC.  
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FOR CHEMICAL EMERGENCY (416) 995 9730  
ADDRESS 160 TORBAY ROAD MARKHAM ONTARIO L3R 1G6 CANADA

DATE PREPARED: 2-10-98 REVIEWED: 1-13-05

SECTION 1. ----- CHEMICAL IDENTIFICATION -----

CODE#: DB0058  
NAME: DTT (DL-DITHIOTHREITOL)

SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

CHEMICAL NAME:	CAS#:	RTECS #:	%:
DL-DITHIOTHREITOL	3483-12-3	XO8576500	>98.5

FOR MORE INFORMATION SEE COMPLETE RTECS ENTRY.

MF: C4H10O2S2  
EC NO: 248-531-9

SYNONYMS

2,3-BUTANEDIOL, 1,4-DIMERCAPTO-, DL-THREO- \* 2,3-BUTANEDIOL, 1,4-DIMERCAPTO-, (R\*,R\*)- (+-)- (9CI) \* CLELAND'S REAGENT \* DL-THREO-1,4-DIMERCAPTO-2,3-BUTANEDIOL \* (R\*,R\*)-(+-)-1,4-DIMERCAPTO-2,3-BUTANEDIOL \* DITHIOTHREITOL \* DL-DITHIOTHREITOL \* DL-1,4-DITHIOTHREITOL \* RAC-DITHIOTHREITOL \*

SECTION 3. ----- HAZARDS IDENTIFICATION -----

LABEL PRECAUTIONARY STATEMENTS

IRRITANT  
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.  
TOXIC  
HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.  
TARGET ORGAN(S):  
CENTRAL NERVOUS SYSTEM  
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.  
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. ----- FIRST-AID MEASURES -----

IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.  
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.  
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.  
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.  
CALL A PHYSICIAN.  
DISCARD CONTAMINATED CLOTHING AND SHOES.

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 AND EYES.

USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----

EVACUATE AREA.

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. ----- HANDLING AND STORAGE-----

REFER TO SECTION 8.

SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.

USE ONLY IN A CHEMICAL FUME HOOD.

SAFETY SHOWER AND EYE BATH.

DO NOT BREATHE DUST.

DO NOT GET IN EYES, ON SKIN, ON CLOTHING.

AVOID PROLONGED OR REPEATED EXPOSURE.

WASH THOROUGHLY AFTER HANDLING.

KEEP TIGHTLY CLOSED.

STORE IN A COOL DRY PLACE.

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

APPEARANCE AND ODOR

SOLID.

UNPLEASANT ODOR.

PHYSICAL PROPERTIES

MELTING POINT: 42 C TO 44 C

FLASHPOINT >230F

>110C

SECTION 10. ----- STABILITY AND REACTIVITY -----

STABILITY

STABLE.

INCOMPATIBILITIES

BASES

OXIDIZING AGENTS

REDUCING AGENTS

ALKALI METALS

MAY DECOMPOSE ON EXPOSURE TO MOIST AIR OR WATER.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

TOXIC FUMES OF:

CARBON MONOXIDE, CARBON DIOXIDE

SULFUR OXIDES

HYDROGEN SULFIDE GAS

HAZARDOUS POLYMERIZATION

WILL NOT OCCUR.

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

ACUTE EFFECTS

HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.

CAUSES EYE AND SKIN IRRITATION.

MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER

RESPIRATORY TRACT.  
EXPOSURE CAN CAUSE:  
NAUSEA, HEADACHE AND VOMITING  
CNS DEPRESSION  
CHRONIC EFFECTS  
TARGET ORGAN(S):  
CENTRAL NERVOUS SYSTEM  
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND  
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: X08576500  
THREITOL, 1,4-DITHIO-, DL-  
TOXICITY DATA

ORL-RAT LD50: 400 MG/KG	
IPR-MUS LD50:169 MG/KG	JMCMAR 15,600,1972
SCU-MUS LD50:333 MG/KG	ARZNAD 22,1434,1972
IVN-MUS LD50:94 MG/KG	ARZNAD 22,1434,1972

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES  
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR  
COMPLETE INFORMATION.

SECTION 12. ----- ECOLOGICAL INFORMATION -----  
DATA NOT YET AVAILABLE.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----  
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. ----- TRANSPORT INFORMATION -----  
NOT REGULATED.

SECTION 15. ----- REGULATORY INFORMATION -----  
EUROPEAN INFORMATION

TOXIC  
R 23/24/25  
TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.  
IRRITANT  
R 36/37/38  
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.  
S: 36/37/39  
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

REVIEWS, STANDARDS, AND REGULATIONS  
OEL=MAK  
NOES 1983: HZD X2950; NIS 1; TNF 35; NOS 3; TNE 627; TFE 436

SECTION 16. ----- OTHER INFORMATION-----  
THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO  
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