

OCT 07 1994

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DATE: 10/05/94
 CUST#: 2-097-94816
 PO#: 2G3468

M A T E R I A L S A F E T Y D A T A S H E E T P A G E 1

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

PRODUCT #: D0632 NAME: DL-DITHIOTHREITOL

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

CAS #: 27565-41-9
 MF: C4H10O2S2

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 * DTT *

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

LABEL PRECAUTIONARY STATEMENTS

HARMFUL
 HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
 IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
 UNPLEASANT ODOR.
 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

CONTINUED ON NEXT PAGE

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M A T E R I A L S A F E T Y D A T A S H E E T P A G E 2

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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.
 IRRITANT.
 HARMFUL SOLID.
 KEEP TIGHTLY CLOSED.
 UNPLEASANT ODOR.
 STORE IN A COOL DRY PLACE.

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

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M A T E R I A L S A F E T Y D A T A S H E E T P A G E 3

CUST#: 2-097-94816
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PRODUCT #: D0632
 MF: C4H10O2S2

NAME: DL-DITHIOTHREITOL

APPEARANCE AND ODOR

SOLID.
 MELTING POINT: 42 C TO 44 C
 FLASHPOINT >230
 > 109C

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

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

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 NO: X08576500

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M A T E R I A L S A F E T Y D A T A S H E E T P A G E 4

CUST#: 2-097-94816
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PRODUCT #: D0632 NAME: DL-DITHIOTHREITOL
 MF: C4H10O2S2

THREITOL, 1,4-DITHIO-, DL-
 TOXICITY DATA

IPR-MUS LD50:169 MG/KG JMC MAR 15,600,72
 SCU-MUS LD50:333 MG/KG ARZ NAD 22,1434,72
 IVN-MUS LD50:94 MG/KG ARZ NAD 22,1434,72

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 -----

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 -----

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

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

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

SECTION 16. ----- OTHER INFORMATION -----

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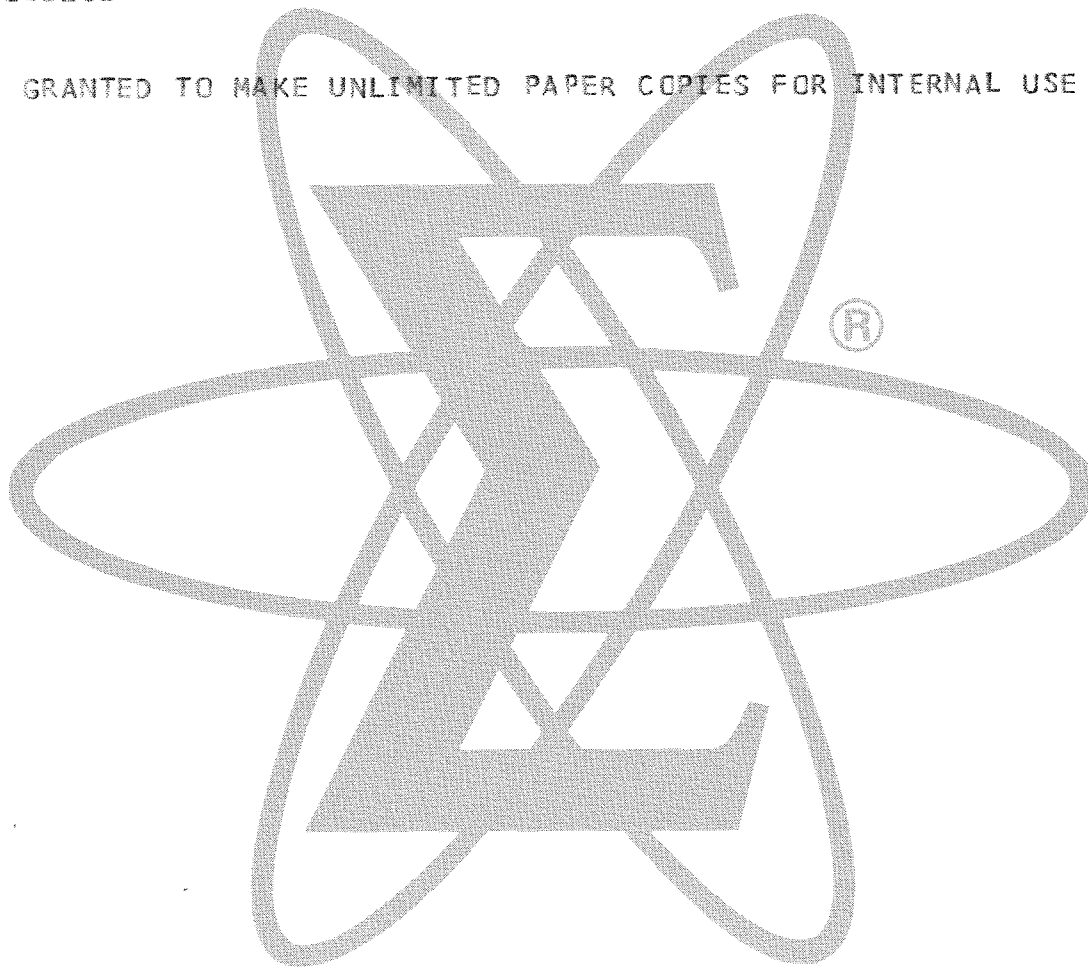
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