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DATE: 12/13/94  
CUST#: 2-097-94816  
PO#: UNE-52366

## M A T E R I A L   S A F E T Y   D A T A   S H E E T

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

PRODUCT #: N6876

NAME: NITRO BLUE TETRAZOLIUM GRADE III  
CRYSTALLINE

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

CAS #: 298-83-9  
MF: C40H30CL2N10O6

#### ADDITIONAL INFORMATION

CONTAINS METHYL ALCOHOL, CHEMICAL ABSTRACTS REGISTRY NUMBER 67-56-1.  
CONTAINS ACETONE, CHEMICAL ABSTRACTS REGISTRY NUMBER 67-64-1.

#### SYNONYMS

NBT \* NBT (DYE) \* NITRO BLUE TETRAZOLIUM \* P-NITRO BLUE TETRAZOLIUM \*  
NITRO BLUE TETRAZOLIUM CHLORIDE \* P-NITRO BLUE TETRAZOLIUM CHLORIDE \*  
NITRO BT \* NITROTETRAZOLIUM BLUE \* P-NITROTETRAZOLIUM BLUE \* NITRO  
TETRAZOLIUM BT \* NITROTETRAZOLIUM CHLORIDE BLUE \* NITRO BLUE  
TETRAZOLIUM SALT \* TETRAZOLIUM NITRO BLUE \* TETRAZOLIUM NITRO BT \*

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

#### LABEL PRECAUTIONARY STATEMENTS

TOXIC  
DANGER:  
POISON  
MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. VAPOR HARMFUL.  
CANNOT BE MADE NON-POISONOUS.  
CAUSES IRRITATION.  
TARGET ORGAN(S):  
EYES  
KIDNEYS  
DO NOT BREATHE DUST.  
WEAR SUITABLE PROTECTIVE CLOTHING.

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

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS  
AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED  
CLOTHING AND SHOES.  
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.

CONTINUED ON NEXT PAGE

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 CRYSTALLINE

SECTION 5. ----- FIRE FIGHTING MEASURES -----

EXTINGUISHING MEDIA:

WATER SPRAY.  
 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.

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.  
 SAFETY SHOWER AND EYE BATH.  
 USE ONLY IN A CHEMICAL FUME HOOD.  
 DO NOT BREATHE DUST.  
 DO NOT GET IN EYES, ON SKIN, ON CLOTHING.  
 AVOID PROLONGED OR REPEATED EXPOSURE.  
 WASH THOROUGHLY AFTER HANDLING.  
 POISON  
 IRRITANT.  
 HARMFUL VAPOR.  
 KEEP TIGHTLY CLOSED.  
 STORE IN A COOL DRY PLACE.

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

APPEARANCE AND ODOUR

SOLID.  
 MELTING POINT: 189 C (DEC)

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

INCOMPATIBILITIES

STRONG OXIDIZING AGENTS  
 HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS  
 TOXIC FUMES OF:  
 CARBON MONOXIDE, CARBON DIOXIDE  
 NITROGEN OXIDES  
 HYDROGEN CHLORIDE GAS

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

ACUTE EFFECTS

MAY BE FATAL IF SWALLOWED.  
 HARMFUL IF INHALED OR ABSORBED THROUGH SKIN.  
 MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER  
 RESPIRATORY TRACT.  
 CAUSES SKIN IRRITATION.  
 EXPOSURE CAN CAUSE:  
 DAMAGE TO THE EYES  
 DAMAGE TO THE LIVER  
 DAMAGE TO THE HEART  
 DAMAGE TO THE KIDNEYS  
 GASTROINTESTINAL DISTURBANCES  
 MAY CAUSE CONVULSIONS.  
 TARGET ORGAN(S):  
 EYES  
 KIDNEYS  
 LIVER

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

ADDITIONAL INFORMATION

WARNING: CONTAINS METHANOL. MAY BE FATAL OR CAUSE BLINDNESS IF  
 SWALLOWED. CANNOT BE MADE NONPOISONOUS.

RTECS NO: XF8045000

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NAME: NITRO BLUE TETRAZOLIUM GRADE III  
 CRYSTALLINE

2H-TETRAZOLIUM,  
 3,3'-(3,3'-DIMETHOXY(1,1'-BIPHENYL)-4,4'-DIYL)BIS(2-(4-NITROPHENYL)-5-P-  
 DICHLORIDE  
 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 -----

TLV AND SOURCE

FOR METHYL ALCOHOL - SKIN:  
 ACGIH TLV-TWA: 200 PPM (260 MG/M3); STEL: 250 PPM (310 MG/M3).  
 OSHA PEL: 8 H TWA 200 PPM (260 MG/M3); STEL: 250 PPM (310 MG/M3).  
 FOR ACETONE:  
 ACGIH TLV-TWA: 750 PPM (1700 MG/M3); STEL 1000 PPM (2380 MG/M3).  
 OSHA PEL: 8H TWA 750 PPM (1800 MG/M3); STEL 1000 PPM (2400 MG/M3).

REVIEWS, STANDARDS, AND REGULATIONS

NDES 1983: HZD X4354; NIS 1; INF 70; NOS 3; TNE 1560; TFE 1227  
 EPA GENETOX PROGRAM 1988, INCONCLUSIVE: B SUBTILIS REC ASSAY  
 EPA TSCA CHEMICAL INVENTORY, JUNE 1993

MAY CONTAIN UP TO:

10% METHYL ALCOHOL, CAS #67-56-1.  
 2% ACETONE, CAS #67-64-1.

THESE PRODUCTS ARE SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

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

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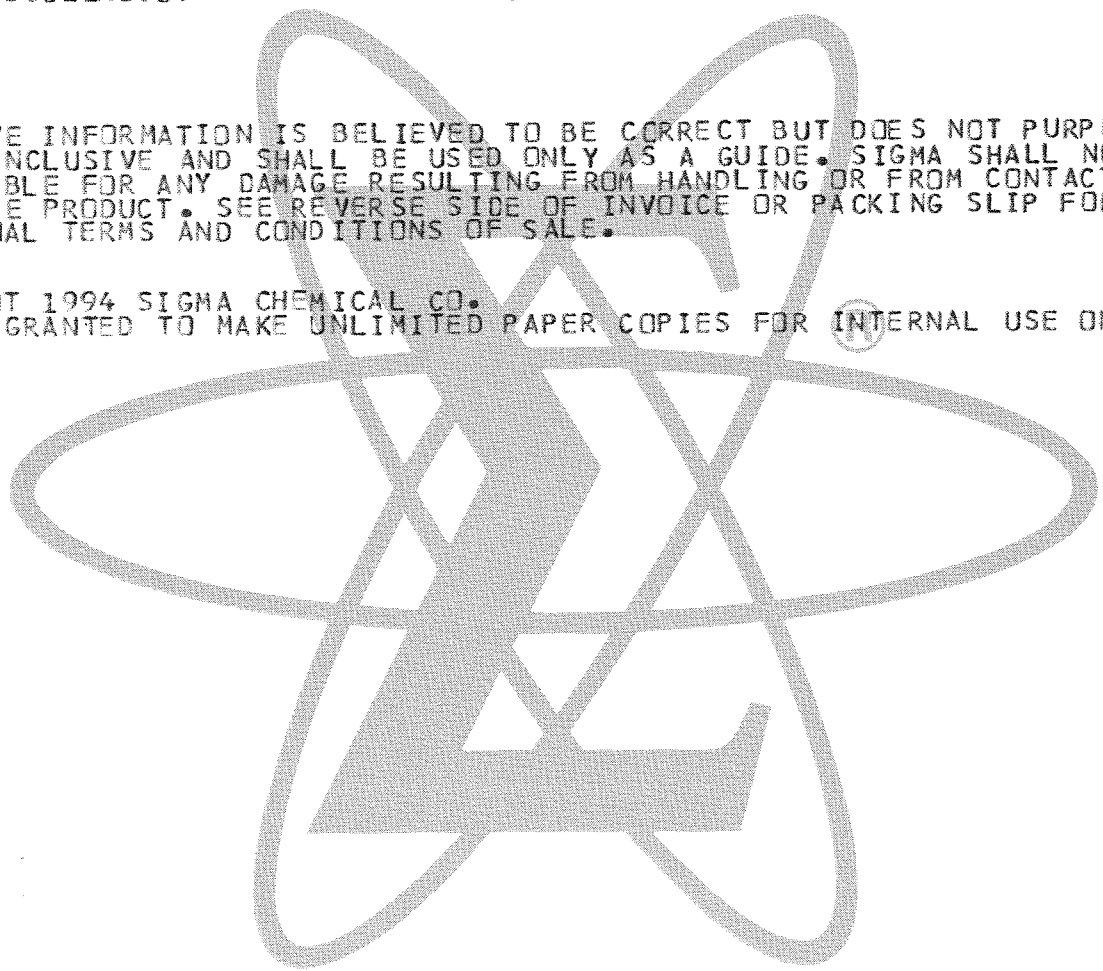
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