

M A T E R I A L S A F E T Y D A T A S H E E T	
CIBA-GEIGY CORPORATION PLASTICS & ADDITIVES DIVISION THREE SKYLINE DRIVE HAWTHORNE, NEW YORK 10532	EMERGENCY PHONE NUMBERS: SAFETY/HEALTH: (914) 347-4700 AFTER HOURS : (800) 334-9481

SECTION I-IDENTITY INFORMATION

IDENTITY (TRADE NAME): TINUVIN P

FAMILY/CHEMICAL NAME:

2-(2'-HYDROXY-5'-METHYLPHENYL)BENZOTRIAZOLE

CAS REG. NO. 2440-22-4

PRODUCT TYPE:

UV ABSORBER

IMPORTANT:

PLEASE NOTE: REVISION 05 - SECTION VI REVISED.

* THIS MATERIAL WILL NOT BE SOLD FOR USE IN PRODUCTS *
* FOR WHICH PROLONGED CONTACT WITH MUCOUS MEMBRANES OR *
* ABRADED SKIN, OR IMPLANTATION WITHIN THE HUMAN BODY, IS *
* SPECIFICALLY INTENDED. BECAUSE OF THE WIDE RANGE OF *
* SUCH POTENTIAL USES, CIBA-GEIGY CORPORATION IS NOT ABLE *
* TO RECOMMEND THIS MATERIAL AS SAFE AND EFFECTIVE FOR *
* SUCH USES AND ASSUMES NO LIABILITY FOR ANY SUCH USES. *

HAZARD STATEMENT :

* THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN *
* PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD *
* COMMUNICATION STANDARD 29 CFR 1910.1200. *
* THIS PRODUCT IS NOT CONSIDERED TO BE A HAZARDOUS *
* CHEMICAL UNDER THAT STANDARD. *

SECTION II-HAZARDOUS INGREDIENTS

NONE KNOWN

TINUVIN P

DO 087093
CONFIDENTIAL

SECTION III-PHYSICAL DATA

APPEARANCE:
YELLOW GRANULES
ODOR:
ODORLESS.
BOILING POINT:
NOT APPLICABLE.
MELTING POINT:
128-132C
DECOMPOSITION TEMPERATURE:
>220C.
EVAPORATION RATE:
NOT APPLICABLE.
PERCENT VOLATILE:
<0.2%
VAPOR DENSITY:
NOT APPLICABLE.
VAPOR PRESSURE:
AT 60C, CA. 1.1×10^{-6} (MM HG)
SOLUBILITY IN WATER:
AT 25C, INSOLUBLE
PH:
NOT APPLICABLE.
SPECIFIC GRAVITY:
CA. 1.4 (H₂O = 1)

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:
401F (MARCUSSEN)
FLAMMABLE LIMITS IN AIR-LOWER:
NOT DETERMINED.
FLAMMABLE LIMITS IN AIR-UPPER:
NOT DETERMINED.
EXTINGUISHING MEDIA:
CARBON DIOXIDE, FOAM, DRY CHEMICAL, WATER SPRAY.
FIRE FIGHTING PROCEDURES-SPECIAL:
USE SELF-CONTAINED BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
DECOMPOSITION AND COMBUSTION PRODUCTS MAY BE TOXIC.

SECTION V-REACTIVITY DATA

STABILITY:
STABLE.
INCOMPATIBILITY:
NONE KNOWN.
HAZARDOUS DECOMPOSITION PRODUCTS:
THERMAL DECOMPOSITION AND BURNING MAY PRODUCE CARBON
MONOXIDE, CARBON DIOXIDE AND NITROGEN OXIDES.
HAZARDOUS POLYMERIZATION:

TINUVIN P

DO 087094
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WILL NOT OCCUR.

SECTION VI-HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE:

DERMAL, INGESTION, AND INHALATION.

THRESHOLD LIMIT VALUE:

NONE ESTABLISHED.

ORAL LD50:

(RATS) >10,000 MG/KG; (MICE) >5000 MG/KG

DERMAL LD50:

(RABBITS) >1000 MG/KG

SKIN IRRITATION:

(RABBITS) NON-IRRITATING.

PHOTOTOXICITY:

(HUMANS) NO PHOTOTOXICITY NOTED IN 10 SUBJECTS.

EYE IRRITATION:

(RABBITS) MINIMAL (DRAIZE SCORE 1.7/110)

SENSITIZATION:

RIPT (HUMANS) NO SENSITIZATION NOTED. THERE ARE SOME LITERATURE REFERENCES INDICATING SENSITIZATION REACTIONS BY PEOPLE EXPOSED TO COSMETIC FORMULATIONS CONTAINING THIS CHEMICAL. TO OUR KNOWLEDGE, SUCH REACTIONS HAVE NOT OCCURRED DURING INDUSTRIAL USAGE.

INHALATION LC50:

(RATS) >163 MG/L AIR FOR A 1.2-HOUR DUST EXPOSURE.

TERATOGENICITY:

SEGMENT II (RATS, MICE): NO EVIDENCE OF TERATOGENIC OR EMBRYOTOXIC EFFECTS.

MUTAGENICITY:

AMES TEST: NEGATIVE

NUCLEUS ANOMALY TEST (CHINESE HAMSTER): NO EVIDENCE OF MUTAGENIC EFFECTS.

SUBCHRONIC ORAL FEEDING STUDIES:

DURING A 90-DAY FEEDING STUDY IN RATS, TOXIC ALTERATIONS WERE PRODUCED IN THE KIDNEY AND LIVER AT THE HIGHER DOSE LEVELS, WITH A NO OBSERVABLE EFFECT LEVEL (NOEL) OF 145-162 MG/KG/DAY.

SIGNS AND SYMPTOMS OF EXPOSURE-ACUTE:

NO IDENTIFIED HEALTH EFFECTS.

SIGNS AND SYMPTOMS OF EXPOSURE-CHRONIC:

NO EXPECTED HEALTH EFFECTS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

NONE KNOWN.

EMERGENCY AND FIRST AID PROCEDURES-EYES:

FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES.

GET MEDICAL ATTENTION.

EMERGENCY AND FIRST AID PROCEDURES-SKIN:

WASH WITH MILD SOAP AND WATER.

EMERGENCY AND FIRST AID PROCEDURES-INGESTION:

IF CONSCIOUS, GIVE LARGE QUANTITIES OF WATER. GET MEDICAL ATTENTION.

EMERGENCY AND FIRST AID PROCEDURES-INHALATION:

TINUVIN P

DO 087095
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REMOVE TO FRESH AIR.
EMERGENCY AND FIRST AID PROCEDURES-OTHER:
WASH CONTAMINATED CLOTHING PRIOR TO REUSE.

SECTION VII-SPILL OR LEAK PROCEDURES

SPILL PROCEDURES:
PREWET MATERIAL WITH WATER TO AVOID DUST FORMATION. SWEEP
OR VACUUM AND PLACE INTO CLOSABLE CONTAINER FOR DISPOSAL.
WEAR PROTECTIVE EQUIPMENT SPECIFIED BELOW.
WASTE DISPOSAL METHODS:
DISPOSE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL
REGULATIONS.

SECTION VIII-SPECIAL PROTECTION INFORMATION

VENTILATION:
LOCAL EXHAUST RECOMMENDED, MECHANICAL EXHAUST
ACCEPTABLE.
PROTECTIVE GLOVES:
WEAR IMPERVIOUS GLOVES AS A STANDARD HANDLING PRACTICE.
EYE PROTECTION:
IN CASES WHERE THERE IS LIKELIHOOD OF EYE CONTACT, WEAR
CHEMICAL GOGGLES.
RESPIRATORY PROTECTION:
USE NIOSH APPROVED DUST MASK, IF REQUIRED.
OTHER PROTECTIVE EQUIPMENT:
WEAR COVERALLS.

SECTION IX-SPECIAL PRECAUTIONS

HANDLING PRECAUTIONS:
IN ACCORDANCE WITH GOOD INDUSTRIAL PRACTICE, HANDLE WITH
CARE AND AVOID UNNECESSARY PERSONAL CONTACT. AVOID CONTACT
WITH EYES AND PROLONGED OR REPEATED SKIN CONTACT. AVOID
CONTINUOUS OR REPETITIVE BREATHING OF DUST. USE ONLY WITH
ADEQUATE VENTILATION . FOR INDUSTRIAL USE ONLY.
SHIPPING AND STORING PRECAUTIONS:
KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE AND DURING
TRANSPORT.
PERSONAL HYGIENE:
WASH THOROUGHLY AFTER HANDLING.

SECTION X- REGULATORY INFORMATION

DOT CLASS:
NOT REGULATED.
DOT NUMBER:
NONE.
RCRA STATUS:
NOT A HAZARDOUS WASTE UNDER RCRA (40 CFR 261).
CERCLA STATUS:
NOT LISTED.

TSCA INVENTORY STATUS:
CHEMICAL COMPONENTS LISTED ON TSCA INVENTORY.

ISSUE DATE: 06/13/86 REVISION: 05C
FOR FURTHER INFORMATION, PLEASE CONTACT: BRUCE SCHWEMMER

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE
BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE
OR WARRANTY OF ANY KIND EXPRESSED OR IMPLIED IS MADE WITH
RESPECT TO THE INFORMATION CONTAINED HEREIN.

M A T E R I A L S A F E T Y D A T A S H E E T	
CIBA-GEIGY CORPORATION ADDITIVES DIVISION SEVEN SKYLINE DRIVE HAWTHORNE, NEW YORK 10532 (914) 785-2000	EMERGENCY PHONE NUMBER: (800) 888-8372

SECTION I-IDENTITY INFORMATION

IDENTITY (TRADE NAME): TINUVIN 770

FAMILY/CHEMICAL NAME:
BIS(2,2,6,6-TETRAMETHYL-4-PIPERIDYL)SEBACATE
PRODUCT TYPE:
HINDERED AMINE LIGHT STABILIZER (HALS)
IMPORTANT:

PLEASE NOTE: REVISION 10 - SECTION IX REVISED.

* THIS MATERIAL WILL NOT BE SOLD FOR USE IN PRODUCTS *
* FOR WHICH PROLONGED CONTACT WITH MUCOUS MEMBRANES OR *
* ABRADED SKIN, OR IMPLANTATION WITHIN THE HUMAN BODY, IS *
* SPECIFICALLY INTENDED. BECAUSE OF THE WIDE RANGE OF *
* SUCH POTENTIAL USES, CIBA-GEIGY CORPORATION IS NOT ABLE *
* TO RECOMMEND THIS MATERIAL AS SAFE AND EFFECTIVE FOR *
* SUCH USES AND ASSUMES NO LIABILITY FOR ANY SUCH USES. *

HAZARD STATEMENT :

* THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN *
* PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD *
* COMMUNICATION STANDARD 29 CFR 1910.1200. *
* THIS PRODUCT IS CONSIDERED TO BE A HAZARDOUS *
* CHEMICAL UNDER THAT STANDARD. *

SECTION II-HAZARDOUS INGREDIENTS

SPECIFIC CHEMICAL NAME:
BIS(2,2,6,6-TETRAMETHYL-4-PIPERIDINYL)DECANEDIOATE
CAS REG. NO. 52829-07-9

TINUVIN 770

DO 087098
CONFIDENTIAL

COMMON NAME: TINUVIN 770
PERCENT: PRODUCT PER SE WAS TESTED
EXPOSURE LIMITS:
OSHA PEL: NONE ESTABLISHED
ACGIH TLV: NONE ESTABLISHED
CIBA-GEIGY INTERNAL: TWA 0.1 MG/CU. M.
CARCINOGENICITY:
THIS CHEMICAL IS NOT CONSIDERED TO BE CARCINOGENIC
BY NTP, IARC OR OSHA.

SECTION III-PHYSICAL DATA

APPEARANCE:
WHITE TO OFF-WHITE POWDER.
ODOR:
NO DISCERNABLE ODOR.
BOILING POINT:
NOT DETERMINED.
MELTING POINT:
81-86C
DECOMPOSITION TEMPERATURE:
>220C.
EVAPORATION RATE:
NOT APPLICABLE.
PERCENT VOLATILE:
< 0.5%.
VAPOR DENSITY:
NOT APPLICABLE.
VAPOR PRESSURE:
AT 20C, CA. 1×10^{-10} (MM HG)
SOLUBILITY IN WATER:
AT 25C, INSOLUBLE
PH:
NOT DETERMINED, BUT MODERATELY BASIC.
SPECIFIC GRAVITY:
CA. 1.05 (H₂O = 1)

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:
>302F (MARCUSSE)
FLAMMABLE LIMITS IN AIR-LOWER:
NOT DETERMINED.
FLAMMABLE LIMITS IN AIR-UPPER:
NOT DETERMINED.
NFPA CODE:
NONE.
EXTINGUISHING MEDIA:
CARBON DIOXIDE, FOAM, DRY CHEMICAL, WATER SPRAY.
FIRE FIGHTING PROCEDURES-SPECIAL:
USE SELF-CONTAINED BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
THE PRODUCT CAN FORM AN EXPLOSIVE DUST/AIR MIXTURE. AVOID

DUST FORMATION AND CONTROL IGNITION SOURCES; EMPLOY GROUND-
ING, VENTING AND EXPLOSION RELIEF PROVISIONS IN ACCORD WITH
ACCEPTED ENGINEERING PRACTICES IN PROCESS OPERATIONS CAP-
ABLE OF GENERATING DUST AND/OR STATIC ELECTRICITY.

SECTION V-REACTIVITY DATA

STABILITY:

STABLE.

INCOMPATIBILITY:

NONE KNOWN.

HAZARDOUS DECOMPOSITION PRODUCTS:

THERMAL DECOMPOSITION AND BURNING MAY PRODUCE CARBON
MONOXIDE, CARBON DIOXIDE AND NITROGEN OXIDES.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR.

SECTION VI-HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE:

DERMAL, INGESTION, AND INHALATION.

ORAL LD50:

(RATS) 3700 MG/KG

DERMAL LD50:

(RABBITS) >3100 MG/KG

SKIN IRRITATION:

(RABBITS) MINIMAL (DRAIZE SCORE 0.5/8)

EYE IRRITATION:

(RABBITS) SEVERE (DRAIZE SCORE 52.3/110; 77.7/110, WITH
CORNEAL CLOUDING PERSISTING AT 7 DAYS)

SENSITIZATION:

(GUINEA PIGS) NOT A SENSITIZER.

RIPT (HUMANS) PRIMARY SKIN IRRITANT WHEN APPLIED NEAT.

INHALATION LC50:

(RATS) >0.96 MG/L AIR FOR A 4-HOUR DUST EXPOSURE
WITH ESSENTIALLY ALL PARTICLES >10 MICRONS.

MUTAGENICITY:

AMES TEST: NEGATIVE

SIGNS AND SYMPTOMS OF EXPOSURE-ACUTE:

WARNING!! CAUSES SEVERE EYE IRRITATION; MAY CAUSE SKIN
IRRITATION. MAY BE IRRITATING TO NASAL MEMBRANES AND
RESPIRATORY TRACT. MAY LEAVE BITTER METALLIC TASTE IN
MOUTH.

SIGNS AND SYMPTOMS OF EXPOSURE-CHRONIC:

NO IDENTIFIED HEALTH EFFECTS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

SKIN CONDITIONS.

EMERGENCY AND FIRST AID PROCEDURES-EYES:

IMMEDIATELY FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES.
GET MEDICAL ATTENTION.

EMERGENCY AND FIRST AID PROCEDURES-SKIN:

PROMPTLY WASH WITH MILD SOAP AND WATER.

EMERGENCY AND FIRST AID PROCEDURES-INGESTION:

IF CONSCIOUS, GIVE LARGE QUANTITIES OF WATER. GET MEDICAL ATTENTION.
EMERGENCY AND FIRST AID PROCEDURES-INHALATION:
REMOVE TO FRESH AIR. IF DIFFICULTY IN BREATHING, GIVE ARTIFICIAL RESPIRATION AND OXYGEN AS NECESSARY.
EMERGENCY AND FIRST AID PROCEDURES-OTHER:
WASH CONTAMINATED CLOTHING PRIOR TO REUSE.

SECTION VII-SPILL OR LEAK PROCEDURES

SPILL PROCEDURES:

SWEEP OR VACUUM AND PLACE INTO CLOSABLE CONTAINER FOR DISPOSAL. WEAR PROTECTIVE EQUIPMENT SPECIFIED BELOW.
THOROUGHLY FLUSH RESIDUE WITH WATER.

WASTE DISPOSAL METHODS:

INCINERATE IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTER-BURNER AND SCRUBBER. FOLLOW ALL FEDERAL, STATE AND LOCAL REGULATIONS.

EFFLUENT DATA-BOD:

(MODIFIED OECD SCREENING TEST): PARTIALLY BUT NOT READILY BIODEGRADABLE

SEWAGE BACTERIAL TOXICITY:

INHIBITORY CONCENTRATION ON THE RESPIRATION OF AEROBIC WASTE WATER BACTERIA: IC20 APPROXIMATELY 100 PPM; IC50, IC80 >100 PPM

FISH TOXICITY:

BLUEGILL, LC50 96H: 4.4 PPM
RAINBOW TROUT, LC50 96 H: 13 PPM

SECTION VIII-SPECIAL PROTECTION INFORMATION

VENTILATION:

USE LOCAL EXHAUST.

PROTECTIVE GLOVES:

WEAR GLOVES AS A STANDARD HANDLING PROCEDURE.

EYE PROTECTION:

WEAR CHEMICAL GOGGLES.

RESPIRATORY PROTECTION:

USE NIOSH APPROVED DUST MASK. AT HIGH TEMPERATURES, USE AN APPROVED RESPIRATOR FOR ORGANIC VAPORS, IF REQUIRED.

OTHER PROTECTIVE EQUIPMENT:

WEAR COVERALLS.

SECTION IX-SPECIAL PRECAUTIONS

HMS CODE:

HEALTH : 3

FIRE : 1

REACTIVITY : 0

HANDLING PRECAUTIONS:

DO NOT GET IN EYES, ON SKIN OR ON CLOTHING. DO NOT INHALE DUST OR HEATED VAPORS. DO NOT TASTE OR SWALLOW. USE ONLY WITH ADEQUATE VENTILATION. DO NOT CAUSE DUSTING DURING HANDLING. HANDLE AS A MODERATE TO STRONG BASE.
FOR INDUSTRIAL USE ONLY.

SHIPPING AND STORING PRECAUTIONS:

TINUVIN 770

DO 087101
CONFIDENTIAL

KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE AND DURING
TRANSPORT.
PERSONAL HYGIENE:
WASH THOROUGHLY AFTER HANDLING.

SECTION X- REGULATORY INFORMATION

DOT PROPER SHIPPING NAME:
NOT REGULATED AS A HAZARDOUS MATERIAL BY THE U.S. DEPT. OF
TRANSPORTATION (DOT) 49 CFR 172.101 HAZARDOUS MATERIALS
TABLE.

DOT CLASS:
NONE.

DOT NUMBER:
NONE.

RCRA STATUS:
NOT A HAZARDOUS WASTE UNDER RCRA (40 CFR 261).

CERCLA STATUS:
NOT LISTED.

SARA/TITLE III - TOXIC CHEMICALS LIST:
THIS PRODUCT DOES NOT CONTAIN A TOXIC CHEMICAL FOR ROUTINE
ANNUAL 'TOXIC CHEMICAL RELEASE REPORTING' UNDER SEC. 313
(40 CFR 372).

TSCA INVENTORY STATUS:
CHEMICAL COMPONENTS LISTED ON TSCA INVENTORY.

CALIFORNIA PROPOSITION 65:
THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS CURRENTLY ON
THE CALIFORNIA LIST OF KNOWN CARCINOGENS AND REPRODUCTIVE
TOXINS.

NEW JERSEY RIGHT-TO-KNOW LABELING INFORMATION:
THIS PRODUCT CONTAINS THE FOLLOWING :

CHEMICAL NAME : BIS(2,2,6,6-TETRAMETHYL-4-PIPERIDYL)SEBACATE
CAS NUMBER : 52829-07-9

* * *

PENNSYLVANIA RIGHT-TO-KNOW ACT:
THE FOLLOWING IS REQUIRED COMPOSITION INFORMATION.

CHEMICAL NAME : DECANEDIOIC ACID, BIS(2,2,6,6-TETRAMETHYL-4-
PIPERIDINYL) ESTER
CAS NUMBER : 52829-07-9
COMMON NAME : BIS(2,2,6,6-TETRAMETHYL-4-PIPERIDYL) SEBACATE; T
INUVIN 770
COMMENTS : NOT ON PENNSYLVANIA HAZARDOUS SUBSTANCE LIST.

* * *

ISSUE DATE: 04/05/90 REVISION: 11C
FOR FURTHER INFORMATION, PLEASE CONTACT: BRUCE SCHWEMMER

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE
BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE
OR WARRANTY OF ANY KIND EXPRESSED OR IMPLIED IS MADE WITH
RESPECT TO THE INFORMATION CONTAINED HEREIN.

M A T E R I A L S A F E T Y D A T A S H E E T	
CIBA-GEIGY CORPORATION PLASTICS & ADDITIVES DIVISION THREE SKYLINE DRIVE HAWTHORNE, NEW YORK 10532	EMERGENCY PHONE NUMBERS: SAFETY/HEALTH: (914) 347-4700 AFTER HOURS : (800) 334-9481

SECTION I-IDENTITY INFORMATION

IDENTITY (TRADE NAME): TINUVIN 765

FAMILY/CHEMICAL NAME:

BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL)SEBACATE, MIXTURE

PRODUCT TYPE:

HINDERED AMINE LIGHT STABILIZER

IMPORTANT:

PLEASE NOTE: REVISION 04 - SECTION VI REVISED.

* THIS MATERIAL WILL NOT BE SOLD FOR USE IN PRODUCTS *
* FOR WHICH PROLONGED CONTACT WITH MUCOUS MEMBRANES OR *
* ABRADED SKIN, OR IMPLANTATION WITHIN THE HUMAN BODY, IS *
* SPECIFICALLY INTENDED. BECAUSE OF THE WIDE RANGE OF *
* SUCH POTENTIAL USES, CIBA-GEIGY CORPORATION IS NOT ABLE *
* TO RECOMMEND THIS MATERIAL AS SAFE AND EFFECTIVE FOR *
* SUCH USES AND ASSUMES NO LIABILITY FOR ANY SUCH USES. *

HAZARD STATEMENT :

* THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN *
* PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD *
* COMMUNICATION STANDARD 29 CFR 1910.1200. *
* THIS PRODUCT IS CONSIDERED TO BE A HAZARDOUS *
* CHEMICAL UNDER THAT STANDARD. *

SECTION II-HAZARDOUS INGREDIENTS

THE PRECISE COMPOSITION OF THIS MIXTURE IS PROPRIETARY INFORMATION. A MORE COMPLETE DISCLOSURE WILL BE PROVIDED TO

TINUVIN 765

DO 087104
CONFIDENTIAL

A PHYSICIAN OR NURSE IN THE EVENT OF A MEDICAL EMERGENCY.

SPECIFIC CHEMICAL NAME: BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL)
SEBACATE, CAS REG. NO. 41556-26-7

COMMON NAME: TINUVIN 765 MAJOR COMPONENT

EXPOSURE LIMITS:

OSHA PEL: NONE ESTABLISHED

ACGIH TLV: NONE ESTABLISHED

CARCINOGENICITY:

THIS CHEMICAL IS NOT CONSIDERED TO BE CARCINOGENIC
BY NTP, IARC, OR OSHA.

COMMON NAME: TINUVIN 765 MINOR COMPONENT

EXPOSURE LIMITS:

OSHA PEL: NONE ESTABLISHED

ACGIH TLV: NONE ESTABLISHED

CARCINOGENICITY:

THIS CHEMICAL IS NOT CONSIDERED TO BE CARCINOGENIC
BY NTP, IARC, OR OSHA.

SECTION III-PHYSICAL DATA

APPEARANCE:

PALE YELLOW VISCOUS LIQUID.

ODOR:

NO DISCERNABLE ODOR.

BOILING POINT:

NOT DETERMINED.

MELTING POINT:

<20C

DECOMPOSITION TEMPERATURE:

>325C

EVAPORATION RATE:

NOT APPLICABLE.

PERCENT VOLATILE:

NEGLECTIBLE.

VAPOR DENSITY:

NOT APPLICABLE.

VAPOR PRESSURE:

NOT DETERMINED.

SOLUBILITY IN WATER:

AT 25C, INSOLUBLE

PH:

NOT APPLICABLE.

SPECIFIC GRAVITY:

CA. 1.0 (H₂O = 1)

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:

189F (PENSKEY-MARTENS) COMBUSTIBLE LIQUID.

FLAMMABLE LIMITS IN AIR-LOWER:

NOT DETERMINED.

TINUVIN 765

DO 087105
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FLAMMABLE LIMITS IN AIR-UPPER:
NOT DETERMINED.

NFPA CODE:
NONE.

EXTINGUISHING MEDIA:

CARBON DIOXIDE, FOAM, DRY CHEMICAL, WATER SPRAY.

FIRE FIGHTING PROCEDURES-SPECIAL:

USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

DECOMPOSITION AND COMBUSTION PRODUCTS MAY BE TOXIC.

SECTION V-REACTIVITY DATA

STABILITY:

STABLE.

INCOMPATIBILITY:

NONE KNOWN.

HAZARDOUS DECOMPOSITION PRODUCTS:

THERMAL DECOMPOSITION AND BURNING MAY PRODUCE CARBON
MONOXIDE, CARBON DIOXIDE AND NITROGEN OXIDES.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR.

SECTION VI-HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE:

DERMAL.

ORAL LD50:

(RATS) 3125 MG/KG

SKIN IRRITATION:

(RABBITS) MINIMAL (DRAIZE SCORE 0.47/8)

EYE IRRITATION:

(RABBITS) NON-IRRITATING.

SENSITIZATION:

(GUINEA PIGS) STRONG SKIN SENSITIZING POTENTIAL, WITH 20/20
ANIMALS SENSITIZED IN EPIDERMAL CHALLENGE.

MUTAGENICITY:

AMES TEST: NEGATIVE

SIGNS AND SYMPTOMS OF EXPOSURE-ACUTE:

WARNING! MAY CAUSE SKIN SENSITIZATION OR OTHER ALLERGIC
RESPONSES.

SIGNS AND SYMPTOMS OF EXPOSURE-CHRONIC:

NO IDENTIFIED HEALTH EFFECTS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

ALLERGY, ECZEMA.

EMERGENCY AND FIRST AID PROCEDURES-EYES:

FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES.

GET MEDICAL ATTENTION.

EMERGENCY AND FIRST AID PROCEDURES-SKIN:

PROMPTLY REMOVE FROM SKIN WITH DRY CLOTH FOLLOWED BY
THOROUGH WASHING WITH MILD SOAP AND WATER.

EMERGENCY AND FIRST AID PROCEDURES-INGESTION:

IF CONSCIOUS, GIVE LARGE QUANTITIES OF WATER. GET

MEDICAL ATTENTION.
EMERGENCY AND FIRST AID PROCEDURES-INHALATION:
REMOVE TO FRESH AIR.
EMERGENCY AND FIRST AID PROCEDURES-OTHER:
PROMPTLY REMOVE AND WASH CONTAMINATED CLOTHING PRIOR
TO REUSE.

SECTION VII-SPILL OR LEAK PROCEDURES

SPILL PROCEDURES:
ABSORB ONTO SAND OR OTHER ABSORBENT MATERIAL. SHOVEL
INTO CLOSABLE CONTAINER FOR DISPOSAL. WEAR PROTECTIVE
EQUIPMENT SPECIFIED BELOW.
WASTE DISPOSAL METHODS:
DISPOSE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL
REGULATIONS; INCINERATION RECOMMENDED.
EFFLUENT DATA-BOD:
OECD SCREENING TEST 301E: PARTIALLY BIODEGRADABLE
BIOACCUMULATION:
JAPANESE MITI TEST: LOW ACCUMULATION FACTOR.
FISH TOXICITY:
BLUEGILL, LC50 96 H: 0.97 PPM (DYNAMIC TEST)
RAINBOW TROUT, LC50 96 H: 7.9 PPM (STATIC TEST)
INVERTEBRATE TOXICITY:
DAPHNIA MAGNA, EC50 48 H: 20 PPM

SECTION VIII-SPECIAL PROTECTION INFORMATION

VENTILATION:
LOCAL EXHAUST RECOMMENDED.
PROTECTIVE GLOVES:
WEAR RUBBER OR PLASTIC GLOVES.
EYE PROTECTION:
WEAR CHEMICAL GOGGLES IF EYE CONTACT IS POSSIBLE.
RESPIRATORY PROTECTION:
AT HIGH TEMPERATURES, USE NIOSH APPROVED RESPIRATOR FOR
ORGANIC VAPORS, IF REQUIRED.
OTHER PROTECTIVE EQUIPMENT:
WEAR COVERALLS.

SECTION IX-SPECIAL PRECAUTIONS

HANDLING PRECAUTIONS:
DO NOT GET IN EYES, ON SKIN OR CLOTHING. DO NOT INHALE
MISTS OR HEATED VAPORS. DO NOT TASTE OR SWALLOW. USE WITH
ADEQUATE VENTILATION. FOR INDUSTRIAL USE ONLY.
SHIPPING AND STORING PRECAUTIONS:
KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE AND DURING
TRANSPORT.
PERSONAL HYGIENE:
WASH THOROUGHLY AFTER HANDLING.

SECTION X- REGULATORY INFORMATION

DOT PROPER SHIPPING NAME:

COMBUSTIBLE LIQUID, N.O.S. (NOT APPLICABLE IN CONTAINERS
HAVING A RATED CAPACITY OF 110 GALLONS OR LESS.)

DOT CLASS:

COMBUSTIBLE LIQUID.

DOT NUMBER:

NA 1993

RCRA STATUS:

NOT A HAZARDOUS WASTE UNDER RCRA (40 CFR 261).

CERCLA STATUS:

NOT LISTED.

TSCA INVENTORY STATUS:

CHEMICAL COMPONENTS LISTED ON TSCA INVENTORY.

ISSUE DATE: 06/13/86 REVISION: 04C

FOR FURTHER INFORMATION, PLEASE CONTACT: BRUCE SCHWEMMER

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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

CIBA-GEIGY CORPORATION
PLASTICS & ADDITIVES DIVISION
THREE SKYLINE DRIVE
HAWTHORNE, NEW YORK 10532
(914) 347-4700

TRADE NAME: **TINUVIN 326**

FAMILY/NAME: 2-(3'-TERT-BUTYL-2'-HYDROXY-5'-METHYLPHENYL)-
5-CHLOROBENZOTRIAZOLE

PRODUCT TYPE: UV ABSORBER

PHYSICAL DATA :

APPEARANCE AND ODOR:

PALE YELLOW POWDER, ODORLESS

DECOMPOSITION TEMPERATURE:

1220C

MELTING POINT:

137-141C

PERCENT VOLATILE:

0.05% MAX.

SPECIFIC GRAVITY:

CA. 1.32 (H₂O = 1)

SOLUBILITY IN WATER:

AT 25C, INSOLUBLE

VAPOR PRESSURE:

AT 20C, CA. 5.6×10^{-9} (MM HG)

RE AND EXPLOSION HAZARD DATA :

EXTINGUISHING MEDIA:

CARBON DIOXIDE, DRY CHEMICAL, FOAM, WATER MIST.

FIRE FIGHTING PROCEDURES-SPECIAL:

USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

DECOMPOSITION AND COMBUSTION PRODUCTS MAY BE TOXIC.

TINUVIN 326

DO 087109
CONFIDENTIAL

REACTIVITY DATA :

STABILITY:

STABLE

HAZARDOUS DECOMPOSITION PRODUCTS:

BURNING MAY PRODUCE CARBON MONOXIDE, CARBON DIOXIDE,
NITROGEN OXIDES AND CHLORINE COMPOUNDS.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR.

HEALTH HAZARD DATA :

THRESHOLD LIMIT VALUE:

NONE ESTABLISHED

ORAL LD50:

(MICE & RATS) >5000 MG/KG

DERMAL LD50:

(RATS) >2000 MG/KG

SKIN IRRITATION:

(RATS) FOR A 6-DAY PER WEEK 4-WEEK APPLICATION OF 0.4 ML
OF A 5% SUSPENSION, THERE WAS NO LOCAL IRRITATION OR
SYSTEMIC TOXICITY.

EYE IRRITATION:

(RABBITS) MINIMAL (DRAIZE SCORE (1/110)

SENSITIZATION:

RIPT (HUMANS) NOT AN IRRITANT OR SENSITIZER AT
0.3% IN DMP.

INHALATION LC50:

(RATS) >0.27 MG/L AIR FOR A 4-HOUR DUST EXPOSURE

EMERGENCY AND FIRST AID PROCEDURES-EYES:

FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES.

CALL A PHYSICIAN.

EMERGENCY AND FIRST AID PROCEDURES-SKIN:

WASH WITH MILD SOAP AND WATER.

EMERGENCY AND FIRST AID PROCEDURES-INGESTION:

IF CONSCIOUS, GIVE LARGE QUANTITIES OF WATER OR MILK.

INDUCE VOMITING. CALL A PHYSICIAN.

EMERGENCY AND FIRST AID PROCEDURES-INHALATION:

REMOVE TO FRESH AIR.

EMERGENCY AND FIRST AID PROCEDURES-OTHER:

WASH CONTAMINATED CLOTHING PRIOR TO REUSE.

SPILL OR LEAK PROCEDURES :

SPILL PROCEDURES:

SWEEP OR VACUUM AND PLACE INTO CLOSABLE CONTAINER FOR
DISPOSAL. WEAR PROTECTIVE EQUIPMENT SPECIFIED BELOW.
THOROUGHLY FLUSH RESIDUE WITH WATER.

WASTE DISPOSAL METHODS:

BURY OR INCINERATE IN APPROVED SITE OR FACILITY IN
ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

TINUVIN 326

DO 087110
CONFIDENTIAL

HA STATUS:
NOT A HAZARDOUS WASTE UNDER RCRA (40 CFR 261).

SPECIAL PROTECTION INFORMATION :

VENTILATION:

USE LOCAL EXHAUST.

PROTECTIVE GLOVES:

WEAR GLOVES AS A STANDARD HANDLING PROCEDURE.

EYE PROTECTION:

WEAR SAFETY GLASSES OR GOGGLES.

RESPIRATORY PROTECTION:

USE NIOSH APPROVED DUST MASK, IF REQUIRED.

SPECIAL PRECAUTIONS :

HANDLING, SHIPPING AND STORING PRECAUTIONS:

IN ACCORDANCE WITH GOOD INDUSTRIAL PRACTICE, HANDLE WITH CARE AND AVOID UNNECESSARY PERSONAL CONTACT. AVOID CONTACT WITH EYES AND PROLONGED OR REPEATED SKIN CONTACT. AVOID CONTINUOUS OR REPETITIVE BREATHING OF DUST. KEEP CONTAINER CLOSED WHEN NOT IN USE AND DURING TRANSPORT. USE ONLY WITH ADEQUATE VENTILATION. WASH AFTER HANDLING, AND BEFORE EATING, DRINKING OR SMOKING. FOR INDUSTRIAL USE ONLY.

ISSUE DATE: 07/26/83

FOR FURTHER INFORMATION, PLEASE CONTACT: BRUCE SCHWEMMER

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TRADE NAME: **TINUVIN 327**

FAMILY/NAME: 2(3'5'-DI-TERT-BUTYL-2'-HYDROXYPHENYL)-5-
 CHLOROBENZOTRIAZOLE

PRODUCT TYPE: UV ABSORBER

PHYSICAL DATA :

APPEARANCE AND ODOR:
 FALE YELLOW POWDER, ODORLESS
DECOMPOSITION TEMPERATURE:
 >220C
MELTING POINT:
 154-156C
PERCENT VOLATILE:
 <0.5
SPECIFIC GRAVITY:
 CA. 1.26 (H2O = 1)
SOLUBILITY IN WATER:
 AT 25C, INSOLUBLE
VAPOR PRESSURE:
 AT 20C, CA. 8.2×10^{-9} (MM HG)

FIRE AND EXPLOSION HAZARD DATA :

FLASH POINT:
 453F (MARKUSSON)
EXTINGUISHING MEDIA:
 CARBON DIOXIDE, DRY CHEMICAL, FOAM, WATER MIST.
FIRE FIGHTING PROCEDURES-SPECIAL:
 USE SELF-CONTAINED BREATHING APPARATUS.
USUAL FIRE AND EXPLOSION HAZARDS:

TINUVIN 327

DECOMPOSITION AND COMBUSTION PRODUCTS MAY BE TOXIC.

REACTIVITY DATA :

STABILITY:

STABLE

HAZARDOUS DECOMPOSITION PRODUCTS:

BURNING MAY PRODUCE CARBON MONOXIDE, CARBON DIOXIDE,
NITROGEN OXIDES AND CHLORINE COMPOUNDS.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR.

HEALTH HAZARD DATA :

THRESHOLD LIMIT VALUE:

NONE ESTABLISHED

ORAL LD50:

(RATS, MICE) 25000 MG/KG

SKIN IRRITATION:

(RABBITS) NONE (DRAIZE SCORE 0/8)

(RATS) 5% SUSPENSION IN GUM ARABIC APPLIED DAILY FOR 4
WEEKS RESULTED IN NO LOCAL IRRITATION OR SYSTEMIC TOXIC
EFFECTS.

EYE IRRITATION:

(RABBITS) NONE (DRAIZE SCORE 0/110)

SENSITIZATION:

RIPT (HUMANS) NOT A PRIMARY IRRITANT OR SENSITIZER WHEN
APPLIED TO 55 SUBJECTS AS A 0.5% MIXTURE IN DMF; ONE
SUBJECT SHOWED A RESPONSE CHARACTERISTIC OF THAT PRODUCED BY
A FATIGUING AGENT.

INHALATION LC50:

(RATS) 20.75 MG/L AIR FOR A 4-HOUR EXPOSURE
WITH APPROX. 98% OF PARTICLES < 7 MICRONS

EMERGENCY AND FIRST AID PROCEDURES-EYES:

FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES.
CALL A PHYSICIAN.

EMERGENCY AND FIRST AID PROCEDURES-SKIN:

WASH WITH MILD SOAP AND WATER.

EMERGENCY AND FIRST AID PROCEDURES-INGESTION:

IF CONSCIOUS, GIVE LARGE QUANTITIES OF WATER OR MILK.
INDUCE VOMITING. CALL A PHYSICIAN.

EMERGENCY AND FIRST AID PROCEDURES-INHALATION:

REMOVE TO FRESH AIR.

EMERGENCY AND FIRST AID PROCEDURES-OTHER:

WASH CONTAMINATED CLOTHING PRIOR TO REUSE.

SPILL OR LEAK PROCEDURES :

SPILL PROCEDURES:

SWEEP OR VACUUM AND PLACE INTO CLOSABLE CONTAINER FOR
DISPOSAL. WEAR PROTECTIVE EQUIPMENT SPECIFIED BELOW.
THOROUGHLY FLUSH RESIDUE WITH WATER.

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WASTE DISPOSAL METHODS:

BURY OR INCINERATE IN APPROVED SITE OR FACILITY IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

RCRA STATUS:

NOT A HAZARDOUS WASTE UNDER RCRA (40 CFR 261).

SPECIAL PROTECTION INFORMATION :

VENTILATION:

USE LOCAL EXHAUST FOR DUSTY USE CONDITIONS.

PROTECTIVE GLOVES:

WEAR GLOVES AS A STANDARD HANDLING PROCEDURE.

EYE PROTECTION:

WEAR SAFETY GLASSES OR GOGGLES.

RESPIRATORY PROTECTION:

USE NIOSH APPROVED DUST MASK, IF REQUIRED.

SPECIAL PRECAUTIONS :

HANDLING, SHIPPING AND STORING PRECAUTIONS:

IN ACCORDANCE WITH GOOD INDUSTRIAL PRACTICE. HANDLE WITH CARE AND AVOID UNNECESSARY PERSONAL CONTACT. AVOID CONTACT WITH EYES AND PROLONGED OR REPEATED SKIN CONTACT. AVOID CONTINUOUS OR REPETITIVE BREATHING OF DUST. KEEP CONTAINER CLOSED WHEN NOT IN USE AND DURING TRANSPORT. USE ONLY WITH ADEQUATE VENTILATION. WASH AFTER HANDLING, AND BEFORE EATING, DRINKING OR SMOKING. FOR INDUSTRIAL USE ONLY.

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