

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
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EMERGENCY PHONE NUMBER:

(800) 888-8372

SECTION I-IDENTITY INFORMATION

IDENTITY (TRADE NAME): IRGANOX 1520 DR

FAMILY/CHEMICAL NAME:

2-METHYL-4,6-BIS((OCTYLTHIO)METHYL)PHENOL BLEND

PRODUCT TYPE:

STABILIZER

IMPORTANT:

* THIS MATERIAL IS NOT INTENDED FOR USE IN PRODUCTS FOR *
* WHICH PROLONGED CONTACT WITH MUCOUS MEMBRANES OR ABRAD- *
* ED SKIN, OR IMPLANTATION WITHIN THE HUMAN BODY, IS *
* SPECIFICALLY INTENDED, UNLESS THE FINISHED PRODUCT HAS *
* BEEN TESTED IN ACCORDANCE WITH THE FOOD AND DRUG ADMIN- *
* ISTRATION AND/OR OTHER APPLICABLE SAFETY TESTING RE- *
* QUIREMENTS. BECAUSE OF THE WIDE RANGE OF SUCH POTEN- *
* TIAL USES, CIBA-GEIGY CORPORATION IS NOT ABLE TO RECOM- *
* MEND THIS MATERIAL AS SAFE AND EFFECTIVE FOR SUCH USES *
* AND ASSUMES NO LIABILITY FOR ANY SUCH USES. *

THE ABOVE DISCLAIMER HAS BEEN REVISED.

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

IRGANOX 1520 DR

DO 085358
CONFIDENTIAL

SPECIFIC CHEMICAL NAME:

2-METHYL-4,6-BIS((OCTYLTHIO)METHYL)PHENOL

CAS #: 110553-27-0

COMMON NAME: IRGANOX 1520

EXPOSURE LIMITS:

OSHA PEL: NONE ESTABLISHED

ACGIH TLV: NONE ESTABLISHED

CARCINOGENICITY:

THIS CHEMICAL HAS NOT BEEN REVIEWED FOR CARCINOGENICITY
BY NTP, IARC, OR OSHA.

SECTION III-PHYSICAL DATA

APPEARANCE:

YELLOWISH OIL.

ODOR:

NO DISCERNABLE ODOR.

BOILING POINT:

>200C

MELTING POINT:

NOT DETERMINED.

EVAPORATION RATE:

NOT APPLICABLE.

PERCENT VOLATILE:

NEGLIGIBLE.

VAPOR DENSITY:

NOT APPLICABLE.

VAPOR PRESSURE:

APPROX. 0.1 MM HG AT 20C

SOLUBILITY IN WATER:

AT 20C, INSOLUBLE

SPECIFIC GRAVITY:

APPROX. 0.95 (H₂O = 1)

VISCOSITY:

NOT DETERMINED.

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:

>350F (PENSKEY-MARTENS)

FLAMMABLE LIMITS IN AIR-LOWER:

NOT DETERMINED.

FLAMMABLE LIMITS IN AIR-UPPER:

NOT DETERMINED.

NFPA CODE:

H1 F1 R0

EXTINGUISHING MEDIA:

CARBON DIOXIDE, FOAM, DRY CHEMICAL, WATER SPRAY. WATER OR
FOAM MAY CAUSE FROTHING.

FIRE FIGHTING PROCEDURES-SPECIAL:

USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

IRGANOX 1520 DR

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CONFIDENTIAL

DECOMPOSITION AND COMBUSTION PRODUCTS MAY BE TOXIC.

SECTION V-REACTIVITY DATA

STABILITY:

STABLE.

INCOMPATIBILITY:

STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS:

THERMAL DECOMPOSITION AND BURNING MAY PRODUCE CARBON MONOXIDE, CARBON DIOXIDE, SULFUR OXIDES AND POSSIBLY OTHER TOXIC SPECIES.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR.

SECTION VI-HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE:

DERMAL.

ORAL LD50:

(RATS) >5000 MG/KG.

DERMAL LD50:

(RATS) >2000 MG/KG.

SKIN IRRITATION:

(RABBITS) NOT AN IRRITANT.

EYE IRRITATION:

(RABBITS) NOT AN IRRITANT.

SENSITIZATION:

(GUINEA PIGS) SKIN SENSITIZATION IN MAXIMIZATION TEST.(7/20 AT FIRST CHALLENGE, 1/20 AT SECOND CHALLENGE), FOR IRGANOX 1520

TERATOGENICITY:

A TERATOLOGY STUDY WAS PERFORMED WITH IRGANOX 1520 IN RATS WHICH RECEIVED ORAL DOSES OF 0, 50, 150 OR 300 MG/KG/DAY DURING DAYS 6 - 15 OF GESTATION. WHILE 300 MG/KG WAS SLIGHTLY TOXIC TO THE MOTHERS, THERE WERE NO SIGNIFICANT EFFECTS ON PREGNANCY OR EMBRYO/FETAL DEVELOPMENT.

MUTAGENICITY:

FOR IRGANOX 1520:

AMES TEST: NON-MUTAGENIC

MICRONUCLEUS TEST: NON-MUTAGENIC

CHINESE HAMSTER CELLS (V79): NON-MUTAGENIC

CHROMOSOME ABERRATION (CHO CELLS IN VITRO): NON-MUTAGENIC

SUBCHRONIC ORAL FEEDING STUDIES:

DURING A 28-DAY ORAL ADMINISTRATION STUDY WITH IRGANOX 1520 IN RATS, AN APPARENT FUNCTIONAL ADAPTATION OF THE LIVER OCCURRED IN ANIMALS RECEIVING 250 AND 1000 MG/KG BODY WEIGHT PER DAY. THE EFFECTS INCLUDED A LIMITED INCREASE IN LIVER WEIGHT (APPROXIMATELY 15%) AND SERUM ALKALINE PHOSPHATASE (APPROXIMATELY 30%) WITHOUT ANY SIGNS OF LIVER LESIONS. THE NO-OBSERVABLE-EFFECT-LEVEL (NOEL) FOR THESE EFFECTS WAS 50 MG/KG.

A 90-DAY ORAL GAVAGE STUDY WAS CONDUCTED IN THE RAT USING DOSES OF 0, 10, 100 AND 1000 MG/KG/DAY. EFFECTS INCLUDED HYPERSALIVATION AND INCREASED LIVER WEIGHT WITHOUT HISTOPATHOLOGIC

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CHANGES. THE NOAEL IS CONSIDERED TO BE 1000 MG/KG/DAY WITH THE NOEL EQUAL TO 10 MG/KG/DAY.

A 14-DAY RANGE-FINDING STUDY WAS CONDUCTED WITH IRGANOX 1520 USING THE BEAGLE DOG. THE NOEL IS 2000 MG/KG/DAY; HIGHER DOSAGES WERE NOT USED.

ORAL ADMINISTRATION OF IRGANOX 1520 TO DOGS AT DOSE LEVELS OF 10, 100 OR 1000 MG/KG/DAY FOR THIRTEEN WEEKS WAS FOUND TO CAUSE BILIARY CELL PROLIFERATION AT THE 1000 MG/KG DOSE LEVEL THAT WAS NOT REVERSED BY 4-WEEKS, POST-DOSE. A SLIGHT TO MODERATE INCREASE IN AMINOTRANSFERASES AND/OR ALKALINE PHOSPHATASE ACTIVITIES WERE RECORDED AT THE 100 AND 1000 MG/KG DOSE LEVELS. THE NO-OBSERVABLE-EFFECT LEVEL (NOEL) WAS DETERMINED TO BE 10 MG/KG.

SIGNS AND SYMPTOMS OF EXPOSURE:

MAY CAUSE SKIN SENSITIZATION WHICH COULD BE SEEN AS REDNESS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

ALLERGY, ECZEMA.

EMERGENCY AND FIRST AID PROCEDURES-EYES:

FOR EYE CONTACT, FLUSH EYES WITH PLENTY OF WATER FOR SEVERAL MINUTES. GET MEDICAL ATTENTION IF IRRITATION OCCURS.

EMERGENCY AND FIRST AID PROCEDURES-SKIN:

FOR SKIN CONTACT, WASH AFFECTED AREAS WITH PLENTY OF WATER, AND SOAP, IF AVAILABLE, FOR SEVERAL MINUTES. GET MEDICAL ATTENTION IF IRRITATION OCCURS.

EMERGENCY AND FIRST AID PROCEDURES-INGESTION:

IF SWALLOWED, GIVE AT LEAST 3-4 GLASSES OF WATER BUT DO NOT INDUCE VOMITING. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

EMERGENCY AND FIRST AID PROCEDURES-INHALATION:

IF INHALED, REMOVE FROM AREA TO FRESH AIR. GET MEDICAL ATTENTION IF RESPIRATORY IRRITATION DEVELOPS OR IF BREATHING BECOMES DIFFICULT.

EMERGENCY AND FIRST AID PROCEDURES-OTHER:

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. FLUSH RESIDUE WELL WITH DETERGENT SOLUTION.

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:

NOT BIODEGRADABLE IN MODIFIED STURM TEST, FOR IRGANOX 1520

EFFLUENT DATA-COD:

2.66 G COD/G

SEWAGE BACTERIAL TOXICITY:

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

FISH TOXICITY:

ZEBRA FISH, ACUTE 96 HOUR LC50: >100 PPM.

INVERTEBRATE TOXICITY:

DAPHNIA MAGNA, ACUTE 24 HOUR EC50: COULD NOT BE CALCULATED;
EC0 IS < 0.5 PPM AND EC100 IS >5.5 PPM, FOR IRGANOX 1520

SECTION VIII-SPECIAL PROTECTION INFORMATION

VENTILATION:

WORK IN WELL VENTILATED AREAS.

PROTECTIVE GLOVES:

WEAR IMPERVIOUS GLOVES.

EYE PROTECTION:

WEAR SAFETY GLASSES OR GOGGLES IF EYE CONTACT IS POSSIBLE.

RESPIRATORY PROTECTION:

WEAR A NIOSH APPROVED RESPIRATOR FOR ORGANIC VAPORS TO MITIGATE
EXPOSURE SHOULD VAPORS OR AEROSOLS BE GENERATED DURING EXTRUSION
PROCESSING OPERATIONS.

OTHER PROTECTIVE EQUIPMENT:

WEAR APPROPRIATE PROTECTIVE EQUIPMENT TO AVOID PERSONAL
CONTACT AND EXPOSURE.

SECTION IX-SPECIAL PRECAUTIONS

HANDLING PRECAUTIONS:

MAY CAUSE ALLERGIC SKIN REACTIONS ON PROLONGED OR REPEATED
CONTACT.

DO NOT GET IN EYES, ON SKIN OR ON CLOTHING. DO NOT INHALE
MISTS. 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 AND BEFORE EATING, DRINKING,
OR USING TOBACCO PRODUCTS.

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).

SARA/TITLE III - EHS LIST:

THIS PRODUCT DOES NOT CONTAIN AN 'EXTREMELY HAZARDOUS SUB-
STANCE' (EHS) FOR EMERGENCY PLANNING UNDER SEC. 301-303
(40 CFR 300 AND 355) AND FOR EMERGENCY RELEASE NOTIFICATION

UNDER SEC. 304.

SARA/TITLE III - CERCLA LIST:

THIS PRODUCT DOES NOT CONTAIN A 'CERCLA' LISTED HAZARDOUS SUBSTANCE FOR EMERGENCY RELEASE NOTIFICATION UNDER SEC. 304 (40 CFR 302).

SARA/TITLE III - OSHA/HCS HAZARDOUS CHEMICAL:

THIS PRODUCT IS CONSIDERED HAZARDOUS UNDER THE OSHA 'HAZARD COMMUNICATION STANDARD' (HCS) AND IS REGULATED UNDER SEC. 311-312 (40 CFR 370). ITS HAZARDS ARE:

IMMEDIATE (ACUTE) HEALTH HAZARD.

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.

MASSACHUSETTS RIGHT-TO-KNOW ACT:

CONTAINS NO COMPONENTS ON THE MASSACHUSETTS LIST AT A THRESHOLD LEVEL.

NEW JERSEY RIGHT-TO-KNOW LABELING INFORMATION:

CONTAINS THE FOLLOWING:

CHEMICAL NAME : 2-METHYL-4,6-BIS((OCTYLTHIO)METHYL)PHENOL
CAS NUMBER : 110553-27-0

* * *

CHEMICAL NAME : EPOXIDIZED SOYBEAN OIL
CAS NUMBER : 8013-07-8

* * *

PENNSYLVANIA RIGHT-TO-KNOW ACT:

THE FOLLOWING IS REQUIRED COMPOSITION INFORMATION.

CHEMICAL NAME : 2-METHYL-4,6-BIS((OCTYLTHIO)METHYL)PHENOL
CAS NUMBER : 110553-27-0
COMMON NAME : NONE
COMMENTS : NOT ON PENNSYLVANIA HAZARDOUS SUBSTANCE LIST.

* * *

CHEMICAL NAME : EPOXIDIZED SOYBEAN OIL
CAS NUMBER : 8013-07-8
COMMENTS : NOT ON PENNSYLVANIA HAZARDOUS SUBSTANCE LIST.

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ISSUE DATE: 05/14/91 REVISION: 01C
FOR FURTHER INFORMATION, PLEASE CONTACT: BRUCE SCHWEMMER

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