

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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DOW CHEMICAL U.S.A. MIDLAND, MI 48674 EMERGENCY PHONE: 517-636-4400

PRODUCT CODE: 01147

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PRODUCT NAME: DURSBAN (R) 2E INSECTICIDE

EFFECTIVE DATE: 10/16/85

DATE PRINTED: 03/12/86

MSD: 001835

1. INGREDIENTS:

O,O-DIETHYL O-(3,5,6-TRICHLORO-2-PYRIDINYL)PHOSPHOROTHIOATE, (CHLORPYRIFIOS)	CAS# 002921-88-2	24.1%
INERT INGREDIENTS:		75.9%
XYLENE RANGE AROMATIC SOLVENT	CAS# 064742-95-6	
PROPRIETARY EMULSIFIER		
PROPRIETARY SOLVENT		
1,4-DIOXANE	CAS# 000123-91-1	

SUBSTANCES LISTED IN THE INGREDIENTS SECTION ARE THOSE IDENTIFIED AS BEING PRESENT AT A CONCENTRATION OF 1% OR GREATER, OR 0.1% IF THE SUBSTANCE IS ON THE LIST OF POTENTIAL CARCINOGENS CITED IN OSHA HAZARD COMMUNICATION STANDARD. WHERE PROPRIETARY INGREDIENT SHOWS, THE IDENTITY OF THIS SUBSTANCE MAY BE MADE AVAILABLE AS PROVIDED IN 29 CFR 1910.1200(I).

2. PHYSICAL DATA:

BOILING POINT: 140C (XYLENE)
 VAP PRESS: 49 MMHG @40C
 VAP DENSITY: <1
 SOL. IN WATER: EMULSIFIABLE
 SP. GRAVITY: 0.999
 APPEARANCE: YELLOW LIQUID, NO CRYSTAL POINT.
 ODOR: MERCAPTAN ODOR.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: 102F
 METHOD USED: TCC

FLAMMABLE LIMITS
 LFL: 1.1% @ 75C
 UFL: 6% @ 150C *

EXTINGUISHING MEDIA: FOAM, CO2, DRY CHEMICAL.

FIRE & EXPLOSION HAZARDS: TOXIC IRRITATING GASES MAY BE FORMED. RAPID DECOMPOSITION AT 160-200C. VIOLENT ERUPTION OF CONTAINERS MAY OCCUR.

FIRE-FIGHTING EQUIPMENT: FOAM SYSTEM IS PREFERRED. USE POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS.

* XYLENE

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4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) AVOID HEATING ABOVE 50C TEMPERATURE. CHLORPYRIFOS UNDERGOES EXOTHERMIC DECOMPOSITION WHICH CAN LEAD TO HIGHER TEMPERATURES AND VIOLENT DECOMPOSITION IF HEAT GENERATED IS NOT REMOVED. CONTAINS PETROLEUM DERIVATIVE SOLVENT - WILL BURN.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) BASE. CONSULT MANUFACTURER FOR SPECIFIC CASES.

HAZARDOUS DECOMPOSITION PRODUCTS: HYDROGEN CHLORIDE, ETHYL SULFIDE, DIETHYL SULFIDES AND NITROGEN OXIDES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: ABSORB SPILLS WITH MATERIAL SUCH AS SAND, SAWDUST, ZORBALL(R), OR DIRT. WASH EXPOSED BODY AREAS THOROUGHLY AFTER HANDLING. CONTAIN SPILL BY DIKING TO KEEP OUT OF SEWERS. FOR LARGE SPILLS, BARRICADE AREA, ELIMINATE IGNITION SOURCES, AND CONSULT MANUFACTURER.

DISPOSAL METHOD: DO NOT CONTAMINATE FOOD, FEED, OR WATER BY STORAGE OR DISPOSAL. PESTICIDE WASTES ARE TOXIC. IMPROPER DISPOSAL OF EXCESS PESTICIDE, SPRAY MIXTURE, OR RINSATE IS A VIOLATION OF FEDERAL LAW. IF THESE WASTES CANNOT BE DISPOSED OF BY USE ACCORDING TO LABEL INSTRUCTIONS, CONTACT YOUR STATE PESTICIDE OR ENVIRONMENTAL CONTROL AGENCY, OR THE HAZARDOUS WASTE REPRESENTATIVE AT THE NEAREST EPA REGIONAL OFFICE FOR GUIDANCE.

5. HEALTH HAZARD DATA:

EYE: MAY CAUSE PAIN. MAY CAUSE SEVERE IRRITATION WITH CORNEAL INJURY.

SKIN CONTACT: PROLONGED OR REPEATED EXPOSURE MAY CAUSE SKIN BURNS. REPEATED CONTACT MAY CAUSE DRYING OR FLAKING OF SKIN.

SKIN ABSORPTION: A SINGLE PROLONGED EXPOSURE MAY RESULT IN THE MATERIAL BEING ABSORBED IN HARMFUL AMOUNTS. THE LD50 FOR SKIN ABSORPTION IN RABBITS IS 694-1724 MG/KG.

INGESTION: SINGLE DOSE ORAL TOXICITY IS LOW. THE ORAL LD50 FOR MALE RATS IS 1173 MG/KG AND FOR FEMALE RATS, 766 MG/KG.

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6. HEALTH HAZARD DATA: (CONTINUED)

AMOUNTS INGESTED INCIDENTAL TO INDUSTRIAL HANDLING ARE NOT LIKELY TO CAUSE INJURY; HOWEVER INGESTION OF LARGER AMOUNTS MAY CAUSE INJURY. IF ASPIRATED (LIQUID ENTERS THE LUNG), MAY CAUSE LUNG DAMAGE, EVEN DEATH DUE TO CHEMICAL PNEUMONIA, A CONDITION CAUSED BY PETROLEUM AND PETROLEUM-LIKE SOLVENTS.

INHALATION: THE LC50 FOR FEMALE RATS IS 2.5 MG/L FOR 4 HOURS. EXCESSIVE EXPOSURE MAY PRODUCE ORGANOPHOSPHATE-TYPE CHOLINESTERASE INHIBITION. EXCESSIVE EXPOSURE TO HIGH CONCENTRATIONS OF SOLVENT MAY CAUSE EYE AND UPPER RESPIRATORY IRRITATION, CENTRAL NERVOUS SYSTEM DEPRESSION, A FEELING OF WARMTH, INCREASED SENSITIVITY TO EPINEPHRINE AND IRREGULAR HEARTBEATS.

SYSTEMIC & OTHER EFFECTS: EXCESSIVE EXPOSURE MAY PRODUCE ORGANOPHOSPHATE-TYPE CHOLINESTERASE INHIBITION. SIGNS AND SYMPTOMS OF EXCESSIVE EXPOSURE TO ACTIVE INGREDIENT MAY BE HEADACHE, DIZZINESS, INCOORDINATION, MUSCLE TWITCHING, TREMORS, NAUSEA, ABDOMINAL CRAMPS, DIARRHEA, SWEATING, PINPOINT PUPILS, BLURRED VISION, SALIVATION, TEARING, TIGHTNESS IN CHEST, EXCESSIVE URINATION, CONVULSIONS. REPEATED EXCESSIVE EXPOSURES TO HIGH CONCENTRATIONS OF SOLVENT MAY CAUSE LIVER AND KIDNEY INJURY AND EFFECTS ON BLOOD CELLS. ACTIVE INGREDIENT DID NOT CAUSE CANCER IN ANIMAL STUDIES. DATA ON SOLVENT ARE INADEQUATE TO EVALUATE CARCINOGENICITY. ACTIVE INGREDIENT DID NOT CAUSE BIRTH DEFECTS IN LABORATORY ANIMALS. EXAGGERATED DOSES OF SOLVENT GIVEN ORALLY TO PREGNANT MICE RESULTED IN AN INCREASE IN CLEFT PALATE, A COMMON DEVELOPMENTAL ABNORMALITY IN MICE. INHALATION EXPOSURE OF SOLVENT TO PREGNANT RATS RESULTED IN TOXICITY TO THE FETUS AT CONCENTRATIONS NONTOXIC TO THE MOTHER BUT DID NOT CAUSE ANY BIRTH DEFECTS. IN ANIMAL STUDIES, ACTIVE INGREDIENT HAS BEEN SHOWN NOT TO INTERFERE WITH REPRODUCTION. BASED ON A MAJORITY OF NEGATIVE DATA AND SOME EQUIVOCAL OR MARGINALLY POSITIVE RESULTS, ACTIVE INGREDIENT IS CONSIDERED TO HAVE MINIMAL MUTAGENIC POTENTIAL. RESULTS OF MUTAGENICITY STUDIES ON SOLVENT HAVE BEEN NEGATIVE IN IN VITRO ("TEST TUBE") TESTS AND INCONCLUSIVE IN ANIMALS.

7. FIRST AID:

EYES: IRRIGATE WITH FLOWING WATER IMMEDIATELY AND CONTINUOUSLY FOR 15 MINUTES. CONSULT MEDICAL PERSONNEL.

SKIN: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN IF IRRITATION PERSISTS.

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7. FIRST AID: (CONTINUED)

WASH CLOTHING BEFORE REUSE. DESTROY CONTAMINATED SHOES. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. WASH THOROUGHLY AFTER HANDLING.

INGESTION: DO NOT INDUCE VOMITING. CALL A PHYSICIAN AND/OR TRANSPORT TO EMERGENCY FACILITY IMMEDIATELY.

INHALATION: IF ILL EFFECTS OCCUR, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN.

NOTE TO PHYSICIAN: BECAUSE RAPID ABSORPTION MAY OCCUR THROUGH LUNGS IF ASPIRATED AND CAUSE SYSTEMIC EFFECTS, THE DECISION OF WHETHER TO INDUCE VOMITING OR NOT SHOULD BE MADE BY A PHYSICIAN. IF LAVAGE IS PERFORMED, SUGGEST ENDOTRACHEAL AND/OR ESOPHAGEAL CONTROL. DANGER FROM LUNG ASPIRATION MUST BE WEIGHED AGAINST TOXICITY WHEN CONSIDERING EMPTYING THE STOMACH. EXPOSURE MAY INCREASE "MYOCARDIAL IRRITABILITY." DO NOT ADMINISTER SYMPATHOMIMETIC DRUGS UNLESS ABSOLUTELY NECESSARY. ATROPINE BY INJECTION IS THE PREFERABLE ANTIDOTE. OXIMES MAY OR MAY NOT BE THERAPEUTIC BUT IT IS RECOMMENDED THEY NOT BE USED IN PLACE OF ATROPINE. SUGGEST SERUM AND/OR RBC CHOLINESTERASE DETERMINATION. SUPPORTIVE CARE. TREATMENT BASED ON JUDGMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF THE PATIENT.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): ACGIH TLV IS 0.2 MG/M3 (SKIN) FOR CHLORPYRIFOS, THE STEL IS 0.6 MG/M3. ACGIH TLV AND OSHA PEL ARE 100 PPM FOR XYLENE, THE STEL IS 150 PPM. ACGIH TLV AND OSHA PEL ARE 350 PPM FOR METHYL CHLOROFORM.

VENTILATION: CONTROL AIRBORNE CONCENTRATIONS BELOW THE EXPOSURE GUIDELINE. USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION MAY BE NECESSARY FOR SOME OPERATIONS. LETHAL CONCENTRATIONS MAY EXIST IN AREAS WITH POOR VENTILATION.

RESPIRATORY PROTECTION: ATMOSPHERIC LEVELS SHOULD BE MAINTAINED BELOW THE EXPOSURE GUIDELINE. WHEN RESPIRATORY PROTECTION IS REQUIRED FOR CERTAIN OPERATIONS, USE AN APPROVED AIR-PURIFYING RESPIRATOR. FOR EMERGENCY AND OTHER CONDITIONS WHERE THE EXPOSURE GUIDELINE MAY BE GREATLY EXCEEDED, USE AN APPROVED POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS.

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4 MATERIAL SAFETY DATA SHEET

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3. HANDLING PRECAUTIONS: (CONTINUED)

SKIN PROTECTION: USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS GLOVES, BOOTS, APRON, OR FULL-BODY SUIT WILL DEPEND ON OPERATION. SAFETY SHOWER SHOULD BE LOCATED IN IMMEDIATE WORK AREA. REMOVE CONTAMINATED CLOTHING IMMEDIATELY, WASH SKIN AREA WITH SOAP AND WATER, AND LAUNDRY CLOTHING BEFORE REUSE. CONTAMINATED LEATHER ITEMS, SUCH AS SHOES, BELTS AND WATCHBANDS, SHOULD BE REMOVED AND DESTROYED.

EYE PROTECTION: USE CHEMICAL GOGGLES. IF VAPOR EXPOSURE CAUSES EYE IRRITATION, USE A FULL-FACE RESPIRATOR.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: NONE.

MSDS STATUS: REVISED SECTIONS 1, 6, 7, AND 8.

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