

MATERIAL SAFETY DATA SHEET

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

PRODUCT NAME: DURSAN (R) 2E INSECTICIDE PRODUCT CODE: 01147 PAGE: 1

EFFECTIVE DATE: 10/16/95 DATE PRINTED: 11/14/96 MSD: 00193E

1. INGREDIENTS:

0,0-DIETHYL 0-(3,5,6-TRICHLORO-2-PYRIDINYL)PHOSPHONODITHIOATE (CHLORPYRIFOS)	CAS# 002921-99-2	24.1%
INERT INGREDIENTS:		72.9%
XYLENE RANGE AROMATIC SOLVENT PROPRIETARY EMULSIFIER	CAS# 066742-95-0	
PROPRIETARY SOLVENT		
1,4-DIOXANE	CAS# 00147-91-1	

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(S), 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 140C  
 VAP DENSITY: <1  
 SOL. IN WATER: EMULSIFIABLE  
 SG. GRAVITY: 0.999  
 APPEARANCE: YELLOW LIQUID; NO CRYSTAL POINT.  
 DODG: MERCAPTAN 0.02%.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: 102F  
 METHOD USED: FCC  
 FLAMMABLE LIMITS  
 LFL: 1.1% @ 75C  
 UFL: 6% @ 150C @

EXTINGUISHING MEDIA: FOAM, CO2, DRY CHEMICAL.

FIRES & 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 JOE TEMPERATURE. CHLORPYRIFOS UNDERGOES EXOTHERMIC DECOMPOSITION WHICH CAN LEAD TO HIGHER TEMPERATURES AND VIOLENT DECOMPOSITION IF HEAT GENERATED IS NOT REMOVED. CONTAINS P-TROLOSON DERIVATIVE SOLVENT - WILL BURN.

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

HAZARDOUS DECOMPOSITION PRODUCTS: HYDROGEN CHLORIDE, HYDRO SULFIDE, OILY SOLIDS AND NITROGEN OXIDES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

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

DISPOSAL METHODS: DO NOT CONTAMINATE FOOD, FEED, OR WATER BY STORAGE OR DISPOSAL. PESTICIDE WASTES ARE TOXIC. PURSUER DISPOSAL OF EXCESS PESTICIDE: SPRAY MIXTURE, OR RESIDUE IS A VIOLATION OF FEDERAL LAW. IF THESE WASTES CANNOT BE DISPOSED 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.

6. HEALTH HAZARD DATA:

EYE: MAY CAUSE MODERATE EYE IRRITATION. MAY CAUSE MODERATE CORNEAL INJURY.

SKIN CONTACT: PROLONGED OR REPEATED EXPOSURE MAY CAUSE SKIN RUPTING. 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 0.74-1.724 MG/KG.

INGESTION: SINGLE ORAL DOSE TOXICITY IS LOW. THE ORAL LD50 FOR WHEE RATS IS 1177 MG/KG AND FOR FEMALE RATS, 760 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 LUNGS), MAY CAUSE LUNG DAMAGE, EVEN DEATH DUE TO CHEMICAL PNEUMONIA, A CONDITION CAUSED BY PETROLEUM AND PETROLEUM-LIKE SOLVENTS.

IRRITATION: THE LC50 FOR FEMALE RATS IS 2.9 MG/L FOR 4 HOURS. EXCESSIVE EXPOSURE MAY PRODUCE ORGANOPHOSPHATE-TYPE CHOLINERGIC LARGE IRRITATION. 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 CHOLINERGIC IRRITATION. SIGNS AND SYMPTOMS OF EXCESSIVE EXPOSURE TO ACTIVE INGREDIENT MAY BE HEADACHE, DIZZINESS, INCOORDINATION, MUSCLE TIGHTENING, TREMORS, NAUSEA, ABDOMINAL CRAMPS, DIARRHEA, SWEATING, PUPILARY MYDRIASIS, BLURRED VISION, TALIATION, 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 LONG-TERM ANIMAL STUDIES. ATLEAST WAS NOT FOUND TO BE CARCINOGENIC IN A NATIONAL TOXICOLOGY PROGRAM BIOASSAY IN RATS AND MICE. ACTIVE INGREDIENT DID NOT CAUSE BIRTH DEFECTS IN LABORATORY ANIMALS. XYLENE HAS BEEN REPORTED TO CAUSE EFFECTS ON THE FETUS WHEN ADMINISTERED TO PREGNANT LABORATORY ANIMALS. IN ANIMAL STUDIES, ACTIVE INGREDIENT HAS BEEN SHOWN NOT TO INTERFERE WITH REPRODUCTION. RESULTS OF IN VITRO (TEST TUBE) AND IN VIVO MUTAGENICITY TESTS ON XYLENE HAVE BEEN NEGATIVE. BASED ON A MAJORITY OF NEGATIVE DATA AND SOME EQUIVOCAL OR MARGINALLY POSITIVE RESULTS, ACTIVE INGREDIENT IS CONSIDERED TO HAVE MINIMAL MUTAGENIC POTENTIAL.

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. WASH CLOTHING BEFORE REUSE. PESTICIDE CONTAMINATED CLOTHING SHOULD BE WASHED OR REPAIRED CONTACT WITH SKIN. WASH THOROUGHLY AFTER HANDLING.

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7. FIRST AID: (CONTINUED)

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 ENDOGASTRIC AND/OR GASTROGASTRIC CONTROL. DANGER FROM LUNG ASPIRATION MUST BE WEIGHED AGAINST TOXICITY WHEN CONSIDERING EMPLOYING THE STOMACH. EXPOSURE MAY INCREASE MYOCARDIAL IRRITABILITY. DO NOT ADMINISTER SYMPATHOMIMETIC DRUGS UNLESS ABSOLUTELY NECESSARY. ATROPINE BY INJECTION IS THE PREFERRED ANTIDOTE. OXIMES MAY BE USED IN PLACE OF ATROPINE IF IT IS RECOMMENDED THEY NOT BE ADMINISTERED. SUGGEST RESUM AND/OR REC ADMINISTRATION OF ATROPINE. SUPPORTIVE CARE. TREATMENT BASED ON JUDGMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF THE PATIENT.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINES: ACGIH TLV IS 0.2 MG/M<sup>3</sup> (SKIN) FOR CHLOROPYRIFOS, THE STEL IS 0.6 MG/M<sup>3</sup>. ACGIH TLV AND OSHA PEL ARE 100 PPM FOR XYLENE, THE STEL IS 100 PPM. ACGIH TLV AND OSHA PEL ARE 350 PPM FOR METHYL CHLOROPYRIFOS.

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.

SKIN PROTECTION: USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS GLOVES, BOOTS,

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8. HANDLING PRECAUTIONS (CONTINUED)

APRON, OR FULL-BODY SUIT WILL BE NEED ON OPERATION. SAFETY SHOES SHOULD BE WEARED 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 9.

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