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SECTION I - GENERAL INFORMATION

CHEMICAL NAME & SYNONYMS
N/A TRADE NAME SYNONYMS
MANULAR

CHEMICAL FAMILY
GRANULAR VAPONA INSECTICIDE FORMULA
X<-MIXTURE

MANUFACTURERS NAME:
MANTEK, DIVISION OF NCH CORP.

ADDRESS (NUMBER, STREET, CITY, STATE & ZIP CODE)
BOX 152170
IRVING, TEXAS 75015

PREPARED BY: M DICKSON/CHEMIST | PRODUCT CODE NUMBER 4016 | EMERGENCY TELEPHONE NUMBER 214-438-1381

SECTION II- HAZARDOUS INGREDIENTS

THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS.

CHEMICAL NAME (INGREDIENTS)	HAZARD	TLV	PEL	CAS#
METHYL SALICYLATE	IRR/ TOX	NOT EST.1.	NOT EST.2.	119-36-8
2,2-DICHLORO VINYL DIMETHYL PHOSPHATE *	MUT.	1PPM 1.	1MG/M3 2.	62-73-7
D-LIMONENE	CDMB/IRR.	NOT EST.1.	NOT EST.2.	5989-27-5

* SEE SECTION XIII

SECTION III - PHYSICAL DATA

MANULAR

(CONTINUED)

SECTION III - PHYSICAL DATA

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BOILING PT. (FAHRENHEIT)	N/A	SPEC GRAVITY (H2O=1)	N/A
VAPOR PRESSURE (MM HG)	N/A	COLOR	GREEN
VAPOR DENSITY (AIR=1)	N/A	ODOR	ORANGE/MINT
PH @ 100%	N/A	CLARITY	GRANULAR
PERCENT VOLATILE BY VOLUME (%)	1	EVAPORATION RATE (BU AC = 1)	N/A
SOLUBILITY IN WATER	NEGLIGIBLE		
VISCOSITY	GRANULAR		

SECTION IV - FIRE AND EXPLSION HAZARD

FLASH POINT (METHOD USED) 300 F. T.C.C. | FLAMMABLE LIMITS | LEL N/A | UEL N/A

EXTINGUISHING MEDIA "ALCOHOL" DRY | WATER | OTHER
X<-FOAM <-FOAM X<-CO2 X<-CHEMICAL X<-SPRAY <-OTHER

SPECIAL FIRE FIGHTING PROCEDURES
WEAR APPROPRIATE PROTECTIVE CLOTHING AND A SELF-CONTAINED BREATHING APPARATUS. THE USE OF EXTINGUISHING MEDIA DEPENDS ON NATURE OF FIRE.

UNUSUAL FIRE & EXPLSION HAZARDS

N/A

NFPA HAZARD RATING (0=INSIGNIFICANT;1=SLIGHT;2=MODERATE;3=HIGH;4=EXTREME):
2 <-HEALTH 1 <-FLAMMABILITY 0 <-REACTIVITY <-SPECIAL

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE :

NOT ESTABLISHED FOR MIXTURE. SEE SECTION II.

EFFECTS OF OVEREXPOSURE

IRRITATING TO SKIN, EYES AND MUCOUS MEMBRANES. SKIN EXPOSURE - LOCAL
- ACUTE - (SHORT TERM EXPOSURE)

IRRITATION POSSIBLE FOLLOWED BY TOXIC EFFECTS. INHALATION - HEADACHE, GIDDINESS, WEAKNESS, TIGHTNESS IN CHEST. INGESTION - NAUSEA, VOMITING, ABDOMINAL CRAMPS, DIARRHEA AND EXCESSIVE SALIVATION.

- CHRONIC - (LONG TERM EXPOSURE)

REPEAT EXPOSURE IS IRRITATING TO THE SKIN AND EYES LEADING TO REDDENING AND TOXIC EFFECTS. CONTINUOUS INHALATION WILL LEAD TO CENTRAL NERVOUS SYSTEM DEPRESSION, HEADACHE, NAUSEA AND TIGHTNESS IN CHEST.

TARGET ORGANS: EYES, SKIN, LIVER AND KIDNEYS

ONE INGREDIENT HAS BEEN FOUND TO BE MUTAGENIC. HOWEVER WHEN ONE CONSIDERS THE PROTOCOL USED ON THE STRAIN OF BACTERIA AND ITS RELATIVE CONCENTRATION, WE DO NOT BELIEVE THAT THE USE OF THE PRODUCT WILL PRESENT THIS HAZARD.

PRIMARY ROUTE OF ENTRY: <-- INHALATION <-- INGESTION <-- ABSORPTION

EMERGENCY & FIRST AID PROCEDURES

INHALATION :
GET PERSON OUT OF CONTAMINATED AREA TO FRESH AIR. IF BREATHING HAS STOPPED, ARTIFICIAL RESPIRATION SHOULD BE STARTED. OXYGEN MAY BE ADMINISTERED, IF READILY AVAILABLE. SEEK MEDICAL ATTENTION IMMEDIATELY.

EYE CONTACT:
IMMEDIATELY FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES HOLDING EYELIDS APART TO INSURE FLUSHING OF THE EYE SURFACE. SEEK MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:
IMMEDIATELY WASH CONTAMINATED SKIN WITH PLENTY OF SOAP AND WATER. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION IMMEDIATELY.

INGESTION :
CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. IF POSSIBLE, INDUCE VOMITING UNDER MEDICAL SUPERVISION BY TOUCHING THE BACK OF THROAT. DO NOT INDUCE VOMITING IF PERSON IS UNCONSCIOUS.

NOTES TO PHYSICIAN :
GASTRIC LAVAGE IS INDICATED IF MATERIAL WAS TAKEN INTERNALLY. IF SYMPTOMS OF CHOLINESTERASE INHIBITION ARE PRESENT, ATROPINE SULFATE IS ANTIDOTAL. 2-PAM IS ALSO ANTIDOTAL AND MAY BE ADMINISTERED IN CONJUNCTION WITH ATROPINE.

SECTION VI - TOXICITY INFORMATION

PRODUCT CONTAINS CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN BY:

IARC	<--YES	NTP	<--YES	OSHA	<--YES	ACGIH	<--YES	OTHER	<--YES
X<--NO	X<--NO	X<--NO	X<--NO	X<--NO	X<--NO	X<--NO	X<--NO	X<--NO	X<--NO
METHYL SALICYLATE								D-LIMONENE	
ORL-RAT LD50: 887MG/KG	3.							(MAJOR COMPONENT OF ORANGE TERPENES)	
ORL-HMN LDLO: 170MG/KG	3.							ORL-MUS LDLO: 67G/KG/39W:ETA	3.
SKN-RBT 500MG/24H MOD	3.							ORL-RAT LD50: 4400MG/KG	3.
EYE-RBT 500MG/24H SEV.	3.								
2,2-DICHLOROVINYL DIMETHYL PHOSPHATE									

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ORL-RAT LD50: 56MG/KG 3.
IHL-RAT LCSO: 15MG/M3/4H 3.
SKN-RAT LD50: 75MG/KG 3.
MUTAGEN STUDIES:
MMA-SAT 30MMDL/L 3.
MMA-SAT 5PPH 3.

SECTION VII - REACTIVITY DATA

STABILITY	X<--STABLE	<--UNSTABLE	CONDITIONS TO AVOID
			N/A

INCOMPATIBILITY (MATERIALS TO AVOID)

STRONG ALKALINE MATERIALS.

HAZARDOUS DECOMPOSITION PRODUCTS

WHEN HEATED TO DECOMPOSITION IT EMITS FUMES OF SOX AND POX.

HAZARDOUS	WILL NOT OCCUR	MAY OCCUR	CONDITIONS TO AVOID
POLYMERIZATION	X<--	<--	N/A

SECTION VIII - SPILL OR LEAK PROCEDURES

STEPS TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
STOP LEAK. CONTAIN SPILL. PICK UP AS MUCH AS POSSIBLE BY VACUUMING OR SWEEPING UP MATERIAL. SPILLED MATERIAL MAY BE REUSED OR PLACED IN A CLOSED LABELED CONTAINER. CONTAMINATED AREA MAY BE FLOODED WITH A DETERGENT AND WATER, THEN FLUSHED DOWN DRAIN.

WASTE DISPOSAL METHOD
IF THESE WASTE CANNOT BE DISPOSED OF BY THE 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.

NEUTRALIZING AGENT
N/A

SECTION IX - SPECIAL PROTECTION INFORMATION

REQUIRED VENTILATION
 GOOD INDUSTRIAL HYGIENE PRACTICE DICTATES THAT THE WORK AREA SHOULD
 PROVIDE ADEQUATE VENTILATION OR CONTROLS TO MAINTAIN AND MEET OSHA
 REQUIREMENTS.

RESPIRATORY PROTECTION
 TYPICAL USE OF THIS PRODUCT DOES NOT REQUIRE THE USE OF A RESPIRATOR.

PROTECTIVE GLOVES
 PROTECTIVE RUBBER GLOVES TO MINIMIZE SKIN
 CONTACT.

EYE PROTECTION
 SAFETY GOGGLES WHEN WORKING WITH PESTICIDE.

OTHER PROTECTION
 N/A

SECTION X - STORAGE AND HANDLING INFORMATION

STORAGE TEMPERATURE	INDOOR	HEATED	REFRIGERATED	OUTDOOR
120 F. <--MAX 95 F. <--MIN	X			

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING
 STORAGE: KEEP CONTAINER CLOSED. STORE IN A COOL,
 DRY PLACE. STORE IN ORIGINAL CONTAINER. DO NOT
 STORE OUT DOORS. AVOID DIRECT CONTACT WITH SKIN
 AND EYES. DO NOT STORE NEAR SEEDS, FEEDS, FOOD
 STUFFS.

OTHER PRECAUTIONS
 AVOID CONTAMINATING WATER SOURCES. KEEP OUT OF
 REACH OF CHILDREN AND ANIMALS. READ LABEL
 CAREFULLY BEFORE USE.

SECTION XI - REGULATORY INFORMATION

CHEMICAL NAME	C. A. S. NUMBER	UPPER % LIMIT
2,2-DICHLOROVINYL DIMETHYL PHO SPHATE*	62-73-7	1.0

THOSE INGREDIENTS LISTED ABOVE ARE SUBJECT TO THE REPORTING REQUIREMENTS OF
 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF
 1986 AND 40 CFR PART 372.

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IF UE (USE EXEMPTION) APPEARS UNDER UPPER % LIMIT, END USERS ARE EXEMPT
 FROM NOTIFICATION BECAUSE THE PRODUCT IS USED AND LABELED FOR ROUTINE
 JANITORIAL WORK, OR THE PRODUCT IS USED AND LABELED FOR FACILITY GROUNDS
 MAINTENANCE (SUCH AS FERTILIZERS AND HERBICIDES), OR THE PRODUCT IS USED AND
 LABELED FOR MAINTAINING MOTOR VEHICLES.

CALIFORNIA PROPOSITION 65
 WARNING: THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) KNOWN TO THE STATE OF
 CALIFORNIA TO CAUSE (1) CANCER OR (2) BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM:
 Silica (1).

SECTION XII - TRANSPORTATION * (FOR FUTURE USE)

APPLICABLE REGULATIONS
 <--49 CFR <--IMCO <--TARIFF 6 D <--IATA <--MILITARY AIR (AFR 71-4)

SHIPPING NAME

HAZARD CLASS | ID NUMBER | REPORT QTY

LABELS | LIMITED QTY

UNIT CONTAINER

DOT SPS CONTAINER | NET EXPLOSIVE WT.

AEROSOL PROPELLANT(S)

SECTION XIII - REFERENCES

1. THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS AND
 PHYSICAL AGENTS, ACGIH, 1991-1992.
 2. OSHA PEL.
 3. DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, 7TH EDITION, N. IRVING
 SAX AND RICHARD J. LEWIS, SR.
- * INGREDIENT PERCENTAGE IS A TRADE SECRET;
 MASS. TRADE SECRET NUMBER 99-172-006

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