

MATERIAL SAFETY DATA SHEET



Cardinal Professional Products
P.O. Box 782
Hollister, CA 95024

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT CODE: EPA REG. NO.: 8536-40
PRODUCT NAME: CARD-O-VAP 5
PRODUCT DESCRIPTION: Organophosphate Insecticide
CHEMICAL NAME: Mixture
SYNONYMS:
MANUFACTURER: CARDINAL PROFESSIONAL PRODUCTS EPA Est. No. 48498-CA-01
TELEPHONE M-F, 8:00-4:30 PDT (800) 548-2223
MSDS & Product Information, 8:00-4:30 PDT: (800) 548-2223, (831) 637-0195X3024

24 HOUR EMERGENCY PHONE (INFOTRAC) U.S. and CANADA:	(800)-535-5053	INFOTRAC (ALL OTHER AREAS):	(800) 535-5053
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For information regarding **MEDICAL EMERGENCIES** or **PESTICIDE INCIDENTS**, call the **INTERNATIONAL POISON Center** at: **1-888-740-8712**

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT(s)	CAS #	EINECS	EXPOSURE LIMITS	% BY WT.
*2,2- Dichlorovinyl Dimethyl Phosphate Related Compounds * Equivalent to 5% dichlorovos (DDVP) Technical Grade	62-73-7	Not available	1.0 mg/M ³ OSHA PEL 0.1 mg/M ³ ACGH TLV (TWA 8 hours exposure)	4.9 0.1
**Inert Ingredients **Contains petroleum distillates. Composition of this mixture is proprietary information. In the event of a medical emergency, compositional information will be provided.	Not available	Not available	Not available	95.0

PEL = Permissible Exposure Limits.
TLV = Threshold Limit Value.

TWA = Time Weighted Average (8 hr).
STEL = Short Term Exposure Limit (15 min.).

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3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS: EMERGENCY OVERVIEW

DANGER POISON! FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH THE SKIN OR EYES. RAPIDLY ABSORBED THROUGH SKIN. REPEATED INHALATION OR SKIN CONTACT MAY, WITHOUT SYMPTOMS, PROGRESSIVELY INCREASE SUSCEPTIBILITY TO DICHLORVOS (DDVP) POISONING. DO NOT SWALLOW OR GET IN EYES, ON SKIN OR ON CLOTHING. DO NOT BREATHE VAPORS. DO NOT CONTAMINATE FOOD OR FEED PRODUCTS.

May produce acute cholinesterase depression. Pre-existing conditions which lower cholinesterase levels increase vulnerability to cholinesterase depression. These include: (for plasma) genetic cholinesterase deficiency, advanced liver disease, chronic alcoholism; malnutrition, dermatomyositis, existing toxicity from exposure to carbon disulfide, benzalkonium salts, organic mercury compounds, ciguatoxins or solanines, and (for RBC) hemolytic anemias. Contains petroleum distillates; Wear a pesticide respirator. See section 8.

ECOLOGICAL: See Sections 12 and 15.

TOXICOLOGICAL: See Section 11.

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4. EMERGENCY AND FIRST AID MEASURES

FIRST AID PROCEDURES:

SEEK MEDICAL ATTENTION IN ALL CASES OF SUSPECTED POISONING.

IF SWALLOWED:

- Call a poison control center or physician immediately for treatment advice.
- Do not give any liquid to the person.
- Do not induce vomiting unless told to do so by a poison control center or physician.

IF INHALED:

- Do not give anything by mouth to an unconscious person.
- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth, if possible.

IF IN EYES:

- Call a poison control center or physician for further treatment advice.
- Hold eye(s) open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye(s).

IF ON SKIN OR CLOTHING:

- Call a poison control center or physician for treatment advice.
- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or physician for treatment advice.

EMERGENCY INFORMATION

- Have the product container or label with you when calling a poison control center or physician or going for treatment.
- For additional information, in case of an emergency, call Infotrac at 1-800-535-5053.

NOTE TO PHYSICIANS:

Symptoms include weakness, headache, tightness in chest, blurred vision, non-reactive pinpoint pupils, salivation, sweating, nausea, vomiting, diarrhea and abdominal cramps. Treatment: Atropine is the specific therapeutic antagonist of choice against parasympathetic nervous stimulation. If there are signs of parasympathetic stimulation, *Atropine Sulfate* should be injected at 10-minute intervals in doses of 1 to 2 milligrams until complete atropinization has occurred. *Pralidoxime chloride* (2-PAM) may also be used as an effective antidote in addition to and while maintaining full atropinization. In adults, an initial dose of 1 gram of 2-PAM should be injected, preferably as an infusion in 250 cc of saline over a 10-to-30-minute period. If this is not practical, 2-PAM may be administered slowly by intravenous injection as a 5% solution in water over not less than two minutes. After about an hour, a second dose of 1 gram of 2-PAM will be indicated if muscle weakness has not been relieved. For infants and children, the dose of 2-PAM is 0.25 grams. Morphine is an improper treatment. Clear chest by postural drainage. Oxygen administration may be necessary. Observe patient continuously for 48 hours. Repeated exposure to cholinesterase inhibitors may without warning cause prolonged susceptibility to very small doses of any cholinesterase inhibitor. Allow no further exposure until cholinesterase regeneration has been attained as determined by blood tests.

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5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: 128 °F 53.3 °C **METHOD:** TAG Closed Cup

This product is classified as a **DOT and OSHA-COMBUSTIBLE LIQUID.**

FLAMMABLE LIMITS:

LOWER FLAMMABLE LIMIT: not established.

UPPER FLAMMABLE LIMIT: not established.

AUTOIGNITION TEMPERATURE:

not established.

SENSITIVE STATIC DISCHARGE: Yes, use proper bonding and/ or grounding procedures.

HAZARDOUS COMBUSTION PRODUCTS:

This product is classified as combustible, and under fire conditions it may decompose to give off toxic gases such as carbon monoxide, carbon dioxide and nitrogen oxides.

EXTINGUISHING MEDIA:

Foam, dry chemical or CO₂ extinguisher, water spray (fog)

FIRE FIGHTING INSTRUCTIONS:

Do not breathe vapors. This material will emit toxic vapors when burned, including carbon oxides, hydrogen chloride and phosphorous oxides. Wear complete fire fighting gear including protective gloves, eye protection and self-contained breathing apparatus. Wash clothing before re-using.

6. ACCIDENTAL RELEASE MEASURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS LEAKED OR SPILLED

DANGER POISON! Wear personal protective equipment and evacuate personnel and ventilate area. Extinguish or remove all sources of potential ignition. Do not allow spilled or leaking material to enter drain, sewers or waterways. If indoors, ventilate area of spill. Soak up with absorbent material such as sand, sawdust, earth or fuller's earth and discard with chemical waste (see pesticide disposal below).

WASTE DISPOSAL METHOD PESTICIDE DISPOSAL CONTAINER DISPOSAL

Refer to Section 13
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7. HANDLING AND STORAGE

GENERAL PROCEDURES: DANGER POISON! DO NOT USE THIS PRODUCT IN OR ON ELECTRICAL EQUIPMENT DUE TO POSSIBILITY OF SHOCK HAZARD.

HANDLING: Take prudent precautions to avoid contact with skin, eyes and clothing. Take prudent precautions to avoid breathing vapors and/ or spray mists of this product. Wear personal protective equipment as required by the label. See Section 8. Mechanical ventilation should be used when handling this product in enclosed spaces. Do not contaminate water, food or feedstuffs by storage, handling or disposal. Read and observe all precautions and instructions on the label.

STORAGE: Store containers upright and closed. Store in areas that are cool, dry and well-ventilated. Keep away from heat, open flame, ignition sources, and strong oxidizers. Emptied containers may retain product residues.
KEEP OUT OF REACH OF CHILDREN.

WORK HYGIENIC PRACTICES: DO NOT SMOKE, EAT, DRINK OR APPLY COSMETICS IN WORK AREA! Wash Promptly if skin becomes contaminated. Wash at the end of each work shift and before eating, smoking and using the toilet.

ELECTROSTATIC ACCUMULATION: This product contains petroleum distillates for which there is the potential for electrostatic accumulation. Proper grounding procedures should be used when transferring this material.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS:	1.0 mg/M ³ OSHA PEL 0.1 mg/M ³ ACGIH TLV 0.2 (TWA 8 hours exposure)
ENGINEERING CONTROLS:	Mechanical ventilation should be used when handling this product in enclosed spaces. Local exhaust ventilation may be necessary.
RESPIRATORY PROTECTION:	Do not breathe spray mist or vapors. Wear a pesticide respirator with either an organic vapor removing OV cartridge with a pre-filter approved for pesticides (MSHA/NIOSH) approval number prefix TX-23C or a canister approved for pesticides (MSHA/NIOSH) approval TX-14G. Review 30 CFR part II for any updated recommendations.
SKIN PROTECTION:	Applicators and other handlers must wear: <ul style="list-style-type: none">• Coveralls worn over long-sleeved shirt and long pants• Chemical-resistant gloves such as Barrier Laminate, Butyl Rubber, Nitrile Rubber, Neoprene Rubber, Polyvinyl Chloride or Viton• Chemical-resistant footwear plus socks• Chemical-resistant apron required for mixing, loading and cleaning equipment
EYE PROTECTION:	Take prudent precautions to avoid contact with eyes. Wear protective eyewear.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear to yellow liquid
ODOR:	Low odor petroleum distillates
PHYSICAL STATE:	Liquid
VAPOR PRESSURE:	Not available
VOC:	Not available
VAPOR DENSITY:	Not available
BOILING POINT:	Not available
MELTING POINT:	Not applicable
SOLUBILITY IN WATER:	Insoluble
SOLUBILITY IN OIL:	100% soluble
SPECIFIC GRAVITY:	Not available
COLOR, (GARDNER):	Not available
pH:	Not available
VISCOSITY:	Not available
REFRACTIVE INDEX:	Not available

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10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.
INCOMPATIBILITY: May react with strong acids, bases, or other strong oxidizing materials.
HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition in the presence of air may yield acrid smoke. Hydrogen chloride, phosphorus oxide, and carbon oxides.
HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE STUDIES:

INGESTION: DDVP (DICHLORVOS) Technical
Acute Oral LD₅₀ (rat) 56 mg/Kg

SKIN:
Acute Dermal LD₅₀ (rabbit): 205 mg/Kg
Primary skin irritation (rabbit): Irritant
Dermal Sensitization (guinea pig): Possible sensitizer

INHALATION:
Acute Inhalation LC₅₀ (rat) 198 mg/M³ (4hour head only vapor)

EYE:
Primary eye irritation (rabbit): Irritant

CHRONIC:

CARCINOGENICITY: California (Proposition 65): This product contains a chemical known to the State of California to cause cancer - DDVP

**Carcinogenicity/
Oncogenicity:** See above statement

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12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: This product is toxic to fish, birds, and other wildlife. Do not apply directly to water. Do not contaminate water when disposing of equipment washwaters. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

PERSISTENCE IN THE ENVIRONMENT

BIODEGRADATION: Unknown
CHEMICAL DEGRADATION: Unknown

TOXIC EFFECTS ON ORGANISMS: Unknown

FISH: LC₅₀ Not established
BIRD: LC₅₀ Not established

TOXICITY TO USEFUL INSECTS: Unknown

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13. DISPOSAL CONSIDERATIONS

- PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. 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.
- RESIDUE REMOVAL:** Triple rinse container promptly after emptying as follows: Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use. Repeat this procedure two more times. For containers 5 gallons or more, use $\frac{1}{5}$ the volume of water for rinsing.
- CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
- RCRA \ CERCLA HAZARDOUS WASTE:**
- | | | |
|-------------------|------------------|------------------------|
| INGREDIENT | RCRA ID#: | CERCLA RQ-VALUE |
| DICHLORVOS (DDVP) | | 10 lbs. (4.54 Kg) |

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14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION:

PROPER SHIPPING NAME: ORGANOPHOSPORUS PESTICIDE(S), LIQUID, TOXIC,
Quantities of 18.7 gallons and under per container: N.O.S., (DICHLORVOS)
HAZARD CLASS: 6.1
IDENTIFICATION NUMBER (UN or NA): UN 3018
PACKING GROUP: N/A
REPORTABLE QUANTITY (RQ) UNDER CERCLA: 10 lbs. (4.54 Kg)

OTHER SHIPPING INFORMATION: This product is regulated as hazardous by the DOT in quantities of 18.8 gallons and over per container.

PROPER HAZARDOUS SHIPPING NAME: Quantities 18.8 gallons and over per container: ORGANOPHOSPORUS PESTICIDE(S), LIQUID, TOXIC, N.O.S., (DICHLORVOS)
HAZARD CLASS: 6.1
IDENTIFICATION NUMBER (UN or NA): UN 3018
PACKING GROUP: III

INTERNATIONAL TRANSPORTATION REGULATIONS:

ICAO / IATA DESCRIPTION: Not available
PROPER SHIPPING NAME: Not available

IMO DESCRIPTION (IMDG CODE): Not available.

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

**SARA TITLE III: (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)
311/ 312 HAZARD CATEGORIES:**

IMMEDIATE (ACUTE HEALTH HAZARD)	YES	FIRE HAZARD	YES
CHRONIC OR DELAYED HEALTH HAZARD	YES	REACTIVE HAZARD	NO
		SUDDEN PRESSURE GENERATING HAZARD	NO

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SECTION 313 REPORTABLE INGREDIENTS: This product contains the following toxic chemicals of the subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

CAS#:	CHEMICAL NAME:	% BY WEIGHT:
62-73-7	DICHLORVOS (DDVP) 62-73-7	4.9
	Related compounds	0.1

302/ 304 EMERGENCY PLANNING

Section 302 Extremely Hazardous Substances: DDVP (Dichlorvos, 62-73-7)

DEVELOP AN EMERGENCY PLAN

Train all personnel who are to deal with this product. Read the label and MSDS entirely. Do not work alone. Develop an emergency plan for the storage site, with an escape plan to deal with a possible spill. Develop a site specific application plan, and review use of PPE. Review procedure for securing site, and for aeration, before beginning application.

Toxic to fish, birds and other wildlife. Do not contaminate bodies of water.

SEE SECTIONS 3, 4, 5 AND 6 OF THIS MSDS.

See Section 13 of this MSDS for the components that are subject to emergency requirements under CERCLA Section 103(a)(40 CFR 302.4).

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: All chemical substances found in this product comply with the Toxic Substances Control Act's inventory reporting requirements.

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STATE REGULATIONS:

VOLATILE ORGANIC COMPOUNDS (VOC): Not available

16. OTHER INFORMATION

HMIS RATINGS:

We assign HMIS ratings to this product based on the hazards of its ingredients(s). Since the customer is most aware of the applications and conditions of use, he must ensure that the proper personal protective equipment is provided consistent with information contained in Section's 7 and 8 of this MSDS.

HMIS RATINGS:	Health	Not available
	Flammability	Not available
	Reactivity	Not available

The data contained herein is based on information currently available to Cardinal Professional Products, and believed to be factual and the opinions expressed to be those of qualified experts; however, this data is not to be taken as a warranty or representation for which Cardinal Professional Products assumes legal responsibility.

Supersedes 8/26/98

Material Safety Data Sheet prepared by