

# DICHLORVOS

DCV

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> DDVP Dichlorophos 2,2-Dichlorovinyl O,O-dimethyl phosphate Nerkol Vapona	Liquid  Colorless to amber  Aromatic characteristic
Liquid Sinks and mixes with water.	
<p><b>Evacuate.</b> Keep people away. Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Notify local health and pollution control agencies. Protect water intakes.</p>	
<b>Fire</b>	Not flammable.
<b>Exposure</b>	<p>CALL FOR MEDICAL AID.</p> <p>VAPOR POISONOUS IF INHALED OR SKIN IS EXPOSED. Move to fresh air. If breathing has stopped, give artificial respiration.</p> <p>LIQUID POISONOUS IF SWALLOWED OR SKIN IS EXPOSED. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.</p>
<b>Water Pollution</b>	HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

### 1. CORRECTIVE RESPONSE ACTIONS

Dilute and disperse  
Stop discharge  
Collection Systems: Pump; Dredge

### 2. CHEMICAL DESIGNATIONS

2.1 **CG Compatibility Group:** Not listed.  
2.2 **Formula:** (CH<sub>2</sub>O)<sub>2</sub>P(O)OCH<sub>2</sub>CCl<sub>2</sub>  
2.3 **IMO/UN Designation:** 6.1/1615 (>2.5%); 9/1615 (>2.5%)  
2.4 **DOT ID No.:** 2783  
2.5 **CAS Registry No.:** 62-73-7  
2.6 **NAERG Guide No.:** 152  
2.7 **Standard Industrial Trade Classification:** 51631

### 3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Wear safety glasses, gas mask, gloves, and top boots, overalls with long sleeves and closed collar.
- 3.2 **Symptoms Following Exposure:** First symptoms are headache, fatigue, dizziness, blurred vision, excessive sweating, nausea and vomiting, stomach cramps, diarrhea, and salivation. As poisoning progresses muscular twitching beginning with eyelids and tongue then face and neck, and finally, generalized twitching with profound muscular weakness. Constriction of pupils may be from systemic poisoning or local effect of spray in eye. A contact dermatitis may develop. Symptoms may be experienced during exposure or up to 8 hours later.
- 3.3 **Treatment of Exposure:** Call a physician. **INHALATION:** In the nonbreathing victim immediately institute artificial respiration. Treat in a cool place. **EYES:** Rinse with abundant water. **SKIN:** Flood and wash thoroughly with water. Remove contaminated clothing under a shower. **INGESTION:** Administer milk, water, or salt water and induce vomiting repeatedly. **OTHER:** As soon as local or systemic signs of intoxication are noted 2 mg (1/30 gr) of atropine should be administered intramuscularly or IV. Repeat every 3 to 8 minutes until signs of atropinization (mydriasis, dry mouth, rapid pulse hot and dry skin) occurs. For children use 1 mg of atropine. Keep airway clear.
- 3.4 **TLV-TWA:** 0.1 ppm.  
3.5 **TLV-STEL:** Not listed.  
3.6 **TLV-Ceiling:** Not listed.  
3.7 **Toxicity by Ingestion:** Grade 3; LD<sub>50</sub> = 50 to 500 mg/kg.  
3.8 **Toxicity by Inhalation:** Currently not available.  
3.9 **Chronic Toxicity:** Teratogenic effects. Workers exposed to low levels of pesticide suffered a decrease in serum and red cell cholinesterase. These workers had more health complaints (frequent headaches, dizziness, sore throat, nausea, etc.) than nonexposed workers.  
3.10 **Vapor (Gas) Irritant Characteristics:** Currently not available  
3.11 **Liquid or Solid Characteristics:** Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of skin.  
3.12 **Odor Threshold:** Currently not available  
3.13 **IDLH Value:** 100 mg/m<sup>3</sup>  
3.14 **OSHA PEL-TWA:** 1 mg/m<sup>3</sup>  
3.15 **OSHA PEL-STEL:** Not listed.  
3.16 **OSHA PEL-Ceiling:** Not listed.  
3.17 **EPA AEGL:** Not listed

### 4. FIRE HAZARDS

- 4.1 **Flash Point:**  
Practically not flammable
- 4.2 **Flammable Limits in Air:** Not pertinent
- 4.3 **Fire Extinguishing Agents:** Not pertinent
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion Products:** Stable to heat
- 4.6 **Behavior in Fire:** Not pertinent
- 4.7 **Auto Ignition Temperature:** Not pertinent
- 4.8 **Electrical Hazards:** Not pertinent
- 4.9 **Burning Rate:** Not pertinent
- 4.10 **Adiabatic Flame Temperature:** Currently not available
- 4.11 **Stoichiometric Air to Fuel Ratio:** Not pertinent
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** Not pertinent
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

### 5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction
- 5.2 **Reactivity with Common Materials:**  
Corrosive to iron and mild steel.
- 5.3 **Stability During Transport:** Stable
- 5.4 **Neutralizing Agents for Acids and Caustics:** Currently not available
- 5.5 **Polymerization:** Currently not available
- 5.6 **Inhibitor of Polymerization:** Currently not available

### 6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:**  
0.7 ppm/48-hour/Bluegill/LC<sub>50</sub>  
0.025 to 3.2 ppm/48-hour/6 fresh water Crustacea/TL<sub>m</sub>
- 6.2 **Waterfowl Toxicity:** Young mallard LD<sub>50</sub> = 7.8 mg/kg
- 6.3 **Biological Oxygen Demand (BOD):**  
Persists 62 days in water 20°C
- 6.4 **Food Chain Concentration Potential:**  
Prolonged exposure to organo-phosphorus pesticides at concentrations as low as 0.01 ppb are toxic to marine animals due to bioconcentration.
- 6.5 **GESAMP Hazard Profile:**  
**Bioaccumulation:** 0  
**Damage to living resources:** 4  
**Human Oral hazard:** 3  
**Human Contact hazard:** ii  
**Reduction of amenities:** XXX

### 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Currently not available
- 7.2 **Storage Temperature:** Currently not available
- 7.3 **Inert Atmosphere:** Currently not available
- 7.4 **Venting:** Currently not available
- 7.5 **IMO Pollution Category:** Currently not available
- 7.6 **Ship Type:** Currently not available
- 7.7 **Barge Hull Type:** Currently not available

### 8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Poison
- 8.2 **49 CFR Class:** 6.1
- 8.3 **49 CFR Package Group:** II
- 8.4 **Marine Pollutant:** Yes
- 8.5 **NFPA Hazard Classification:** Not listed
- 8.6 **EPA Reportable Quantity:** 10 pounds
- 8.7 **EPA Pollution Category:** A
- 8.8 **RCRA Waste Number:** Not listed
- 8.9 **EPA FWPCA List:** Yes

### 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Liquid
- 9.2 **Molecular Weight:** 220.98
- 9.3 **Boiling Point at 1 atm:** 284°F = 140°C = 413.2°K
- 9.4 **Freezing Point:** Currently not available
- 9.5 **Critical Temperature:** Currently not available
- 9.6 **Critical Pressure:** Currently not available
- 9.7 **Specific Gravity:** 1.415 at 25°C
- 9.8 **Liquid Surface Tension:** Currently not available
- 9.9 **Liquid Water Interfacial Tension:** Currently not available
- 9.10 **Vapor (Gas) Specific Gravity:** Currently not available
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** Currently not available
- 9.12 **Latent Heat of Vaporization:** Currently not available
- 9.13 **Heat of Combustion:** Currently not available
- 9.14 **Heat of Decomposition:** Currently not available
- 9.15 **Heat of Solution:** Currently not available
- 9.16 **Heat of Polymerization:** Currently not available
- 9.17 **Heat of Fusion:** Currently not available
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** Currently not available

### NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	S L I G H T L Y  S O L U B L E	105 110 115 120 125 130 135 140	0.001 0.001 0.001 0.001 0.002 0.002 0.003 0.003	90 95 100 105 110 115 120 125 130 135 140	0.00001 0.00001 0.00001 0.00002 0.00003 0.00003 0.00004 0.00005 0.00007 0.00009 0.00012		C U R R E N T L Y  N O T  A V A I L A B L E