



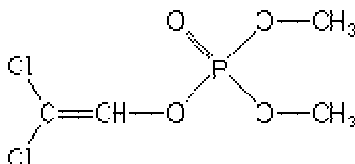
**Hangzhou Tianlong Biotechnology Co., Ltd.**

Add: Room 1906, Fengqi Times Tower, No.338, Fengqi East Road, Hangzhou, Zhejiang, China.

## MATERIAL SAFETY DATA SHEET

### 1. Chemical Product and company Identification

Product Name: Dichlorvos  
Molecular Formula: C<sub>4</sub>H<sub>7</sub>Cl<sub>2</sub>O<sub>4</sub>P  
Molecular Weight: 220.98  
Structural Formula:



Chemical Name: 2,2-dichlorovinyl dimethyl phosphate  
CAS No.: 62-73-7  
Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD  
Address: Room 1906, Fengqi Times Tower, No.338 Fengqi East Road,  
Hangzhou, China, 310020  
Tel: 0086-571-87214516  
Fax: 0086-571-87079476

### 2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Dichlorvos	62-73-7	98.0
Other ingredients		2.0

### 3. Hazards Identification

Warning Statements:

Note to physician: This product is an organophosphate (cholinesterase-inhibiting) insecticide.

Atropine is antidotal and should be given in multiple doses as necessary until the patient is atropines. In severe cases 2-PAM may be given provided therapy begins within 24-hours of exposure. Monitor serum and RBC cholinesterase. Morphine, theophylline, aminophylline, phenothiazines, reserpine, furosemide, or ethacrynic acid are contraindicated in organophosphate poisonings. Administer i.v. fluids cautiously if needed to correct dehydration. Symptoms of cholinesterase inhibition can include headache, dizziness, blurred vision, weakness,

nausea, cramps, diarrhea, discomfort in the chest, nervousness, sweating, miosis, tearing, salivation, pulmonary edema, uncontrollable twitches, convulsions, coma, and loss of reflexes and sphincter control.

#### **4. First Aid Measures**

Eyes: Flush eyes with large amounts of water for 15-20 minutes. Consult a physician if irritation persists .

Skin: Remove all contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a physician for treatment advice.

Ingestion: If conscious induce vomiting. Do not give anything by mouth to an unconscious person. Call a physician to get medical attention.

Inhalation: Move subject to fresh air. Give artificial respiration if breathing has stopped. If breathing is difficult, give oxygen. Get medical attention immediately.

#### **5. Fire-Fighting Measures**

Flash Point (°F/Test Method): Not applicable

Flammable Limits (LEL & UEL): Not available.

Extinguishing Media: Dry chemical, carbon dioxide, alcohol foam, foam, water spray or fog.

Hazardous Combustion Products: None known.

Special Fire Fighting Procedures: Use water spray to cool containers exposed to fire. Remain upwind. Avoid breathing smoke. Wear self - contained breathing apparatus and full protective gear. Avoid using heavy streams of water.

Unusual Fire And Explosion Hazards: Stay well back from the fire area. In a fire situation hydrochloric acid, phosgene, phosphorus oxides and carbon oxides and other unknown hazardous materials may be formed. Incomplete combustion may lead to formation of carbon monoxide and other asphyxiants.

#### **6. Accidental Release Measures**

Steps To Be Taken If Material Is Released Or Spilled: Release or Spill: Scoop, shovel, or sweep up and place in appropriate containers. Avoid dust generation. FOR A SINGLE STRIP: No special protective measures are required. Either rehang the strip or dispose of it according to the procedure listed above. Be sure to wash thoroughly with soap and water after handling the strip. FOR A LARGE SPILL: Use the protective clothing listed below in Section 8. Place the spilled strips into closed containers. Clean up the area by treating with ammonia or dilute caustic solution. Prevent the runoff from getting into local water supplies. Absorb the wash liquid with solid absorbent such as kitty litter and place in a sealed container for disposal.

#### **7. Handling And Storage**

Handling: Store in a cool dry place away from children, feed and food products, seed and fertilizer. Do not store above 100o F. Do not store beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco usage, and cosmetic application in areas where there is a potential f or exposure to the material. Always wash thoroughly after handling. See Section 8 for PPE.

Other Precautions: Do not contaminate water supplies by handling and storage of product.

## **8. Exposure Controls/Personal Protection**

Engineering Controls: Local ventilation recommended. Work in well-ventilated area or outdoors.

Respiratory Protection: Wear a pesticide respirator with organic vapor cartridge and pesticide prefilter if necessary.

Eye Protection: Chemical goggles or shielded safety glasses.

Skin Protection: Wear protective clothing: long-sleeved shirts and pants, hat, rubber boots with socks. Wear rubber or chemicalresistant gloves.

## **9. Physical and Chemical Properties**

Appearance: Colorless to Amber Liquid

Specific Gravity (Water= 1): 1.425 g/ml

Water Solubility: 10,000 mg/L (estimated)

Solubility in Other Solvents: dichloromethane, v.s.; 2-propanol, v.s.; toluene v.s.; ethanol s.; chloroform s.; acetone s.; kerosene s.

Melting Point: -60°C

Vapor Pressure: 0.04 mPa

Partition Coefficient: Not Available

Adsorption Coefficient: 30 (estimated)

## **10. Stability and Reactivity**

Stability: Stable

Incompatibility: Strong oxidizers, acids, bases.

Conditions To Avoid: Extreme heat, sparks and open flame.

Hazardous Decomposition Products: CO<sub>2</sub>, CO, NO<sub>x</sub>, phosphorus containing compounds and other unknown hazardous material may be formed in a fire situation. Incomplete combustion may lead to formation of carbon monoxide and/or other asphyxiants.

## **11. Toxicological Information**

Acute Oral LD<sub>50</sub> (rat): (Dichlorvos (DDVP) technical) 56 mg/kg

Eye Irritation (rabbit): May cause eye irritation.

Inhalation LC<sub>50</sub> (rat): 140mg/m<sup>3</sup> (whole body, mist).

Acute Dermal LD 50 (rabbit): (Dichlorvos Technical): 205 mg/kg

Skin Irritation (rabbit): Caused mild irritation.

Ingestion: May cause stomach distress, nausea or vomiting.

Mutagenic effects: Dichlorvos can bind to molecules such as DNA. For this reason, there has been extensive testing of dichlorvos for mutagenicity. Several studies have shown dichlorvos to be a mutagen; for example, dichlorvos is reported positive in the Ames mutagenicity assay and in other tests involving bacterial or animal cell cultures. However, no evidence of mutagenicity has been found in tests performed on live animals. Its lack of mutagenicity in live animals may be due to rapid metabolism and excretion.

Organ toxicity: Dichlorvos primarily affects the nervous system through cholinesterase inhibition, the blockage of an enzyme required for proper nerve functioning.

## **12. Ecological Information**

Effects on birds: Dichlorvos is highly toxic to birds, including ducks and pheasants; the LD50 in wild birds fed dichlorvos is 12 mg/kg.

Effects on aquatic organisms: UV light makes dichlorvos 5 to 150 times more toxic to aquatic life. Grass shrimp are more sensitive to dichlorvos than the sand shrimp, hermit crab, and mummichog. The LC50 (96-hour) for dichlorvos is 11.6 mg/L in fathead minnow, 0.9 mg/L in bluegill, 5.3 mg/L in mosquito fish, 0.004 mg/L in sand shrimp, 3.7 mg/L in mummichogs, and 1.8 mg/L in American eels. The LC50 (24-hour) for dichlorvos in bluegill sunfish is 1.0 mg/L. Dichlorvos does not significantly bioaccumulate in fish.

Effects on other organisms: Dichlorvos is toxic to bees.

## **13. Disposal Considerations**

Dispose of in accordance with local regulations. If a household waste, wrap strip in paper, place in a sealed plastic bag, and place in the trash. If large numbers of strips are to be discarded and disposed of consult with local authorities prior to placing in a sanitary landfill or by other procedures approved by local, state and federal regulations.

## **14. Transport Information**

Class: 6.1.

UN NO.: 3018

Packing group: III

## **15. Regulatory Information**

Not Applicable.

## **16. Other Information**

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such.

In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.