

## Dichlorvos (DDVP)

**Hazard to children:** acute poisoning, brain cancer, leukaemia, potential developmental toxin, impaired immune function, endocrine disruption; later in life other cancers, diabetes



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**Uses:** organophosphate insecticide; also formed as a degradation product of naled and trichlorfon.

**Bans:** EU - very toxic by inhalation; dangerous for the environment.

**Residues:** breast milk and neonate plasma;<sup>1</sup>

**Acute toxicity:** highly toxic neurotoxin. Fatal if inhaled, swallowed or absorbed through skin; skin and eye irritant. Causes depressed motor function and respiration; nausea, headaches, seizures, coma, death.

Poisonings in many countries, including China, India, Korea;<sup>2-4</sup> residues in food have caused poisoning in Turkey.<sup>5</sup> Used for suicide, e.g. in Nepal.<sup>6</sup> Second most common cause of pesticide poisoning in some parts of Turkey.<sup>7</sup>

**Chronic toxicity:** causes oxidative stress; effects on blood cells; damage to liver, heart.

**Neurological:** potential developmental neurotoxin (decreased brain weight in animals);<sup>8</sup> may cause delayed neuropathy;<sup>9</sup> increased risk of Parkinson's disease.<sup>10</sup>

**Cancer:** known animal carcinogen causing forestomach tumours, leukaemia, pancreatic adenomas, mammary gland tumours in rats.<sup>8</sup> In humans linked to childhood brain cancer<sup>11</sup> and leukaemia,<sup>12</sup> non-Hodgkin's lymphoma,<sup>13</sup> and breast cancer.<sup>14</sup>

**Genotoxicity:** known mutagen.<sup>15</sup>

**Endocrine disruption:** decreased testosterone, follicle stimulating and luteinizing hormones (rats).<sup>16</sup>

**Reproduction:** reproductive toxicity; decreased sperm motility, damage to endometrium and testicles (rats).<sup>16 17 18</sup>

**Immune:** toxic to immune system.<sup>19 20</sup>

**Metabolic:** increased risk of diabetes.<sup>21 22</sup>

**Environmental effects:** *Aquatic:* highly toxic to aquatic organisms.<sup>23</sup>

*Terrestrial:* highly toxic to birds, bees and beneficial insects;<sup>23</sup> wildlife poisonings reported in Africa.<sup>24</sup>

**Environmental fate:** volatile and likely to drift; residues inside houses do not break down easily; found in water and sediment in river in Thailand.<sup>25</sup>

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