

# Health Effects of 48 Commonly Used Toxic Pesticides in Schools

## A Beyond Pesticides Fact Sheet

Pesticide	Cancer	Reproductive Effects	Neurotoxicity	Kidney / Liver Damage	Sensitizer / Irritant
<b>Insecticide</b>					
Acephate	C <sup>1</sup>	X <sup>2</sup>	X <sup>3</sup>	X <sup>4</sup>	X <sup>2</sup>
Allethrin			X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
Avermectin		X <sup>2</sup>	X <sup>2</sup>		X <sup>2</sup>
Bendiocarb		X <sup>3</sup>	X <sup>3</sup>		X <sup>2</sup>
Bromacil	C <sup>1</sup>			X <sup>2</sup>	X <sup>5</sup>
Chlorpyrifos			X <sup>2</sup>		X <sup>2</sup>
Cyfluthrin		X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
Cypermethrin	C <sup>1</sup>	X <sup>6</sup>	X <sup>2</sup>	X <sup>2</sup>	
Diazinon		X <sup>7</sup>	X <sup>2</sup>		X <sup>2</sup>
Dichlorvos	C <sup>1</sup>		X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
Fenoxycarb	Likely <sup>1</sup>			X <sup>2</sup>	X <sup>2</sup>
Fenvalerate			X <sup>2</sup>		X <sup>2</sup>
Hydramethylnon	C <sup>1</sup>	X <sup>8</sup>		X <sup>2</sup>	X <sup>2</sup>
Isophenfos			X <sup>5</sup>		
Lamda Cyhalothrin	D <sup>1</sup>		X <sup>2</sup>		X <sup>2</sup>
Permethrin	C <sup>1</sup>	X <sup>9</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
Phenothrin			X <sup>10</sup>	X <sup>3</sup>	
Piperonyl butoxide	C <sup>1</sup>	X <sup>11</sup>	X <sup>11</sup>	X <sup>12</sup>	X <sup>11</sup>
Propetamphos			X <sup>2</sup>		
Propoxur	B2 <sup>5</sup>		X <sup>2</sup>	X <sup>2</sup>	
Pyrethrin	Likely <sup>1</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
Tetramethrin	C <sup>1</sup>		X <sup>3</sup>		
Trichlorfon		X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
<b>Herbicides</b>					
Atrazine	2B <sup>13</sup>	X <sup>7</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
Bensulide			X <sup>2</sup>		X <sup>2</sup>
2,4-D	2B <sup>14</sup>	X <sup>15</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>16</sup>
DSMA			X <sup>17</sup>		X <sup>17</sup>
Dacthal	C <sup>1</sup>			X <sup>2</sup>	X <sup>15</sup>
Dicamba	D <sup>1</sup>		X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
Diquat Dibromide		X <sup>18</sup>		X <sup>2</sup>	X <sup>5</sup>
Endothall				X <sup>15</sup>	X <sup>2</sup>
Glyphosate		X <sup>15</sup>	X <sup>15</sup>	X <sup>2</sup>	X <sup>5</sup>
Isoxaben	C <sup>1</sup>				
MCPA		X <sup>2</sup>	X <sup>15</sup>	X <sup>15</sup>	
MCPP				X <sup>2</sup>	X <sup>2</sup>
MSMA		X <sup>9</sup>	X <sup>9</sup>	X <sup>18</sup>	X <sup>9</sup>
Pendimethalin	C <sup>1</sup>	X <sup>15</sup>		X <sup>2</sup>	X <sup>2</sup>
Prometon	D <sup>1</sup>				X <sup>19</sup>
Pronamide	B2 <sup>1</sup>	X <sup>5</sup>		X <sup>5</sup>	X <sup>2</sup>
Siduron					X <sup>9</sup>
Triclopyr	D <sup>1</sup>			X <sup>2</sup>	X <sup>2</sup>
Trifluralin	C <sup>1</sup>	X <sup>7</sup>		X <sup>2</sup>	X <sup>2</sup>
<b>Fungicides</b>					

Benomyl	C <sup>1</sup>	X <sup>8</sup>	X <sup>15</sup>	X <sup>2</sup>	X <sup>2</sup>
Chlorothalonil	Likely <sup>1</sup>		X <sup>15</sup>		X <sup>15</sup>
Maneb	B2 <sup>1</sup>	X <sup>15</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
PCNB	C <sup>1</sup>	X <sup>15</sup>		X <sup>15</sup>	
Sulfur					X <sup>2</sup>
Triadimefon	C <sup>1</sup>	X <sup>8</sup>	X <sup>2</sup>	X <sup>2</sup>	
Ziram	Likely <sup>1</sup>	X <sup>2</sup>	X <sup>15</sup>	X <sup>15</sup>	X <sup>2</sup>
	<b>Cancer</b>	<b>Reproductive Effects</b>	<b>Neurotoxicity</b>	<b>Kidney / Liver Damage</b>	<b>Sensitizer / Irritant</b>
<b>Total</b>	24	25	33	33	39

X = Adverse effects demonstrated.

B2 = U.S. EPA weight-of-evidence category, “probable human carcinogen, sufficient evidence in animals and inadequate or no evidence in humans.”

C = U.S. EPA weight-of-evidence category, “possible human carcinogen” rating.

D = U.S. EPA weight-of-evidence category, “not classifiable as to human carcinogenicity,” usually due to inadequate data.

2B = International Agency for Research on Cancer, World Health Organization (IARC) category, the agent (mixture) is possibly carcinogenic to humans.

Likely = U.S. EPA, “Likely to be carcinogenic to humans.”

Sources: This list is a compilation analysis by Beyond Pesticides with data collected through surveys on pesticide use and pest management practices from around the country. Surveys include:

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<sup>2</sup> Extension Toxicology Network (EXTOXNET) Pesticide Information Profiles, [ace.orst.edu/info/extoxnet/ghindex.html](http://ace.orst.edu/info/extoxnet/ghindex.html).

<sup>3</sup> U.S. EPA. 2000. Table 1: Toxicity Data by Category for Chemicals Listed Under EPCRA Section 313. Toxic Release Inventory (TRI) Program. [www.epa.gov/tri/chemical/hazard\\_categories.pdf](http://www.epa.gov/tri/chemical/hazard_categories.pdf).

<sup>4</sup> National Institute for Occupational Safety and Health. Registry of Toxic Effects of Chemical Substances. [www.cdc.gov/niosh/rtecs/tb48alc0.html](http://www.cdc.gov/niosh/rtecs/tb48alc0.html).

<sup>5</sup> U.S. EPA. Reregistration Eligibility Decision (RED) Factsheet. Office of Pesticide Program. [www.epa.gov/oppsrrd1/REDs/](http://www.epa.gov/oppsrrd1/REDs/).

<sup>6</sup> Illinois EPA. 1997. Illinois EPA Endocrine Disruptors Strategy. Springfield, IL. [www.nihs.go.jp/hse/envIRON/illiepatable.htm](http://www.nihs.go.jp/hse/envIRON/illiepatable.htm).

<sup>7</sup> U.S. EPA. 2003. Handbook for Non-Cancer Health Effects Valuation, Appendix C: Case Studies, Economic Valuation of Endocrine Disruption: Introduction. Science Policy Council. [www.epa.gov/osp/spc/Endoqs.htm](http://www.epa.gov/osp/spc/Endoqs.htm).

<sup>8</sup> California EPA. 2003. Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Office of Environmental Health Hazard Assessment. [www.oehha.org/prop65/prop65/list/71103LSTA.html](http://www.oehha.org/prop65/prop65/list/71103LSTA.html).

<sup>9</sup> National Library of Medicine, TOXNET, Hazardous Substances Database, <http://toxnet.nlm.nih.gov/>.

<sup>10</sup> World Health Organization. 1990. d-Phenothrin. Environmental Health Criteria. Geneva.

<sup>11</sup> Cox, C. 2002. "Piperonyl Butoxide." *Journal of Pesticide Reform* 22(2): 12-20. [www.pesticide.org/PiperonylButoxide.pdf](http://www.pesticide.org/PiperonylButoxide.pdf).

<sup>12</sup> National Pesticide Information Center. Pesticide Fact Sheets. <http://ace.orst.edu/info/npic/npicfact.htm>.

<sup>13</sup> U.S. EPA. 1999. Table 4: Cancer Data for Chemicals Listed Under EPCRA Section 313.

<sup>14</sup> National Cancer Institute epidemiological evidence.

<sup>15</sup> Environmental Defense Fund, Scoreboard Database, [www.scorecard.org/chemical-profiles/](http://www.scorecard.org/chemical-profiles/).

<sup>16</sup> U.S. EPA. 2003. 2,4-D. Technology Transfer Network, Air Toxics Website. [www.epa.gov/ttnatw01/hlthef/di-oxyac.html](http://www.epa.gov/ttnatw01/hlthef/di-oxyac.html).

<sup>17</sup> Material Data Safety Sheet for DSMA, [www.horizononline.com/MSDS\\_Sheets/195.txt](http://www.horizononline.com/MSDS_Sheets/195.txt).

<sup>18</sup> New Jersey Department of Health and Senior Services. Right to Know Hazardous Substance Fact Sheets. <http://www.state.nj.us/health/eoh/rtkweb/rtkhsfs.htm>.

<sup>19</sup> Cornell University. 1985. Prometon Herbicide Profile. Ithaca, NY. <http://pmep.cce.cornell.edu/>.



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