

Chemical Factsheet

Malathion

General Information

- Fact Sheet: [Malathion.pdf](#)
- Product Names:
 - Fyfanon** (Cheminova)
 - Vegetables & Fruit Trees Spray** (Bonide Products), formulated with [Carbaryl](#)
 - Alco** (Amvac Chemical)
 - ULV Mosquitocide 731** (Clarke Mosquito Control Products), formulated with [Resmethrin](#), [Piperonyl butoxide](#) (some formulations)
 - Ferti-Lome** (Voluntary Purchasing Group), formulated with [PCNB](#), [Captan](#) (some formulations)
- Chemical Class: Organophosphate insecticide
- Uses: Alfalfa; apricot; asparagus; avocado; barley; bean (succulent and dry); beets (table); birdsfoot trefoil; blackberry; blueberry; boysenberry; broccoli; broccoli raab; Brussels sprout; cabbage (including Chinese); carrot; cauliflower; celery; chayote; cherry; chestnut; clover; collards; corn (field; sweet; and pop); cotton; cucumber; currant; dandelion; date; dewberry; eggplant; endive; escarole; potato; fig; garlic; gooseberry; grape; grapefruit; guava; hay grass; hops; horseradish; kale; kohlrabi; kumquat; leek; lemon; lespedeza; lettuce (head and leaf); lime; loganberry; lupine; macadamia nut; mango; melon; mint; mushroom; mustard greens; nectarines; oats; okra; onion; orange; papaya; parsley; parsnip; passion fruit; pea; peach; pear; pecan; pepper; pineapple; pumpkin; radish; raspberry; rice; rutabaga; rye; salsify; shallot; sorghum; spinach; spring wheat; squash; strawberry; sweet potato; Swiss chard; tangelo; tangerine; tomato (including tomatillo); turnip; vetch; walnut; watercress; watermelon; wheat (spring, and winter); wild rice; and yam; indoor stored commodity treatment and empty storage facilities for barley, corn, oats, rye, and wheat. Homeowner outdoor uses: ornamental flowering plants, ornamental lawns, ornamental turf, vegetable gardens and fruit trees; ornamental flowers, shrubs, and trees; Christmas tree plantations; slash pine; ornamental nursery stock; woody plants; building perimeters (domestic dwellings as well as commercial structures); uncultivated nonagricultural areas; outdoor garbage dumps; intermittently flooded areas; irrigation systems; pastures; and rangeland. Treatment of headlice and their eggs.
- Alternatives: [Organic agriculture](#), [Least-toxic outdoor residential control](#), [Least-toxic head lice control](#), [Least-toxic mosquito control](#)
- Beyond Pesticides rating: [Toxic](#)

Health and Environmental Effects

See citations at end of document.

- Cancer: Suggestive evidence (1)
- Endocrine Disruption: Yes (2)
- Reproductive Effects: Yes (3)
- Neurotoxicity: Yes (4)

- Kidney/Liver Damage: Yes (5)
- Sensitizer/ Irritant: Yes (6)
- Birth/Developmental: Yes (7)
- Detected in Groundwater: Yes (5)
- Potential Leacher: Yes (5)
- Toxic to Birds: Yes (8)
- Toxic to Fish/Aquatic Organisms: Yes (8)
- Toxic to Bees: Yes (8)

Residential Uses as Found in the ManageSafe™ Database

- [Bagworms](#)
- [Head Lice](#)
- [Cockroaches](#)
- [Fleas](#)
- [Mosquitoes](#)
- [Thrips](#)
- [Aphids](#)

Additional Information

- Regulatory Status:
 - [Beyond Pesticides' Comments \(October 2024\)](#)
 - [Biological Evaluation Chapters for Malathion ESA Assessment](#) (2017)
 - [Beyond Pesticides' Experimental Use Permits comments](#) (3/2017)
 - [Beyond Pesticides' Human Health Draft Risk Assessment for Registration Review comments](#) (12/2016)
 - [EPA Reregistration Eligibility Decision \(RED\) signed](#) (7/2006)
 - NRDC and friends revised risk assessment [comments](#) (2005)
 - Beyond Pesticides' Cumulative Risk Organophosphate [comments](#) (2002)
 - Beyond Pesticides' preliminary risk assessment [comments](#) (2000)
- Supporting information:
 - [Asthma, Children and Pesticides](#) (Beyond Pesticides)
 - [NCAP Malathion Factsheet](#) (Northwest Coalition for Alternatives to Pesticides)
 - [Exttoxnet Malathion Factsheet](#) (Extension Toxicology Network)
 - [PAN Pesticides Database: Malathion](#) (Pesticide Action Network)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
 - [Carcinogenicity of tetrachlorvinphos, parathion, malathion, diazinon, and glyphosate](#). *Lancet Oncol.* 2015 May; 16(5):490-1.
 - [Cytogenetic evaluation of malathion-induced toxicity in Sprague-Dawley rats](#). Moore PD, Patlolla AK, Tchounwou PB. 2011. *Mutat Res.* 725(1-2):78-82
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Gateway Health and Environmental Effects Citations

1. EPA weight-of-evidence category, "Suggestive evidence of carcinogenicity but not sufficient to assess human carcinogenic potential." US EPA, 2005. Office of Pesticide Programs. List of Chemicals Evaluated for Carcinogenic Potential. May 10, 2005. <http://www.epa.gov/pesticides/carlist/>
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3. Frazier, L. and M.L. Hage. 2001. *Reproductive Hazards of the Workplace*. Europe: Wiley. Table 10: Partial List of Reproductive Toxins. <https://web.archive.org/web/20100624221623/http://www.biosci.osu.edu/safety/CHP/Tables2001/Tab10-11-00.pdf>.
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5. Extension Toxicology Network (EXTOXNET) Pesticide Information Profiles. <http://extoxnet.orst.edu/pips/ghindex.html>
6. Northwest Coalition for Alternatives to Pesticides (NCAP), Pesticide Factsheets. <http://www.pesticide.org/pesticide-factsheets>.
7. Beyond Pesticides ChemWatch Factsheets. (Cited under factsheets on [Beyond Pesticides Gateway](#); see top of individual chemical page)
8. US EPA, Office of Prevention, Pesticides and Toxic Substances, Reregistration Eligibility Decisions (REDs), Interim REDs (iREDs) and RED Factsheets. <https://archive.epa.gov/pesticides/reregistration/web/html/status.html>.

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