

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

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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/Tabl e10-11-00.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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