Chemical Factsheet

Chlorothalonil

General Information

- Fact Sheet: Chlorothalonil.pdf
- Product Names:
  Bonide Fung Onil Multi Purpose Fungicide Ready to Use (Bonide Products)
  Ortho Multi Purpose Fungicide Daconil 2787 Plant Disease Control (Solaris Group), formulated with Propylene glycol
  Duron Weathershield Exterior Acrylic Semi Gloss, Accent Base (Duron), forumlated with Ethylene glycol, Diethylene glycol monobutyl ether, Kaolin clay, Titanium dioxide, Acrylic resin(s), Crystalline silica
  Ortho Garden Disease Control Concetrate (Ortho Group)
  Instrata (Syngenta), formulated with Propiconazole, Fludioxonil
- Chemical Class: Organochlorine fungicide
- Uses: Agricultural crops, Christmas trees, turf and golf course, residential lawns, adhesive and grout additive, paint preservative, wood treatment
- Alternatives: Agriculture, Ornamental/Lawn
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

- Cancer: Likely (**1**)
- Endocrine Disruption: Not documented
- Reproductive Effects: Yes (**2**)
- Neurotoxicity: Yes (**3**)
- Kidney/Liver Damage: Yes (**4**)
- Sensitizer/ Irritant: Yes (**5**)
- Birth/Developmental: Not documented
- Detected in Groundwater: Yes (**2**)
- Potential Leacher: Yes (**5**)
- Toxic to Birds: Not documented
- Toxic to Fish/Aquatic Organisms: Yes (**5**)
- Toxic to Bees: Not documented

Additional Information

- Regulatory Status:
  - EPA Reregistration Eligibility Decision (RED) signed (9/1998)
  - New York tolerance petition
- Supporting information:
  - Daily News Blog entries (Beyond Pesticides)
  - Asthma, Children and Pesticides (Beyond Pesticides)
  - NCAP Chlorothalonil Factsheet (Northwest Coalition for Alternatives to Pesticides)
  - Extoxnet Chlorothalonil Factsheet (Extension Toxicology Network)

    - PAN Pesticides Database:Chlorothalonil (Pesticide Action Network)
- Studies [compiled from the Pesticide-Induced Diseases Database]
    - Long-term effects of neonicotinoid insecticides on ants. Schläppi, D., Kettler, N., Straub, L., Glauser, G. and Neumann, P., 2020. Communications biology, 3(1), pp.1-9.
    - Assessing Field-Scale Risks of Foliar Insecticide Applications to Monarch Butterfly (Danaus plexippus) Larvae. Krishnan, N., Zhang, Y., Bidne, K.G., Hellmich, R.L., Coats, J.R. and Bradbury, S.P., 2020. Environmental Toxicology and Chemistry, 39(4), pp.923-941.
    - Human exposure and risk assessment to airborne pesticides in a rural French community.. Coscollà C, López A, Yahyaoui A, Colin P, et al. 2017. Sci Total Environ. 584-585:856-868
    - Immune response of Brazilian farmers exposed to multiple pesticides . Jacobsen-Pereira, C.H. et al. (2020) 'Immune response of Brazilian farmers exposed to multiple pesticides', Ecotoxicology and Environmental Safety, 202, p. 110912. doi:10.1016/j.ecoenv.2020.110912.
    - Toxicity of pesticides toward human immune cells U-937 and HL-60. Barbasz, A. et al. (2020) 'Toxicity of pesticides toward human immune cells U-937 and HL-60', Journal of Environmental Science and Health, Part B, 55(8), pp. 719–725. doi:10.1080/03601234.2020.1777059.
    - Pesticide-Induced Inflammation at a Glance. Lopes-Ferreira, M. et al. (2023) 'Pesticide-induced inflammation at a glance', Toxics, 11(11), p. 896. doi:10.3390/toxics11110896.
    - Lethal, sublethal, and combined effects of pesticides on bees: A meta-analysis and new risk assessment tools. Tosi, S., Sfeir, C., Carnesecchi, E., vanEngelsdorp, D., & Chauzat, M. P. (2022). Lethal, sublethal, and combined effects of pesticides on bees: A meta-analysis and new risk assessment tools. The Science of the total environment, 844, 156857. https://doi.org/10.1016/j.scitotenv.2022.156857
    - Current-use pesticide transport to Costa Rica's high-altitude tropical cloud forest. Chubashini Shunthirasingham, Todd Gouin, Ying D Lei, Clemens Ruepert, Luisa E Castillo, Frank Wania, Current-use pesticide transport to Costa Rica's high-altitude tropical cloud forest, Environmental Toxicology and Chemistry, Volume 30, Issue 12, 1 December 2011, Pages 2709–2717, https://doi.org/10.1002/etc.671
    - Chlorothalonil exposure impacts larval development and adult reproductive performance in Drosophila melanogaster. Dissawa Darshika M., Boyer Ines and Ponton Fleur 2025 Chlorothalonil exposure impacts larval development and adult reproductive performance in Drosophila melanogaster R. Soc. Open Sci.12250136 http://doi.org/10.1098/rsos.250136
    - Interactive effects of chlorothalonil and Varroa destructor on Apis mellifera during adult stage. Wu, Tong et al. "Interactive effects of chlorothalonil and Varroa destructor on Apis mellifera during adult stage." Pesticide biochemistry and physiology vol. 204 (2024): 106107. doi:10.1016/j.pestbp.2024.106107
    - Pesticide transformation products: a potential new source of interest for drinking water. Pasquini, L., Lardy-Fontan, S. and Rosin, C. (2025) Pesticide transformation products: a potential new source of interest for drinking water, Environmental Science and Pollution Research. Available at: https://link.springer.com/article/10.1007/s11356-025-35979-3.
    - Pesticide Prioritization by Potential Biological Effects in Tributaries of the Laurentian Great Lakes. Oliver, S.K., Corsi, S.R., Baldwin, A.K., Nott, M.A., Ankley, G.T., Blackwell, B.R., Villeneuve, D.L., Hladik, M.L., Kolpin, D.W., Loken, L., DeCicco, L.A., Meyer, M.T. and Loftin, K.A. (2023), Pesticide Prioritization by Potential Biological Effects in Tributaries of the Laurentian Great Lakes. Environ Toxicol Chem, 42: 367-384. https://doi.org/10.1002/etc.5522
    - Spatial and Temporal Distribution of Current-Use Pesticides in Atmospheric Particulate Matter in Houston, Texas. Clark, A.E., Yoon, S., Sheesley, R.J. et al. Spatial and Temporal Distribution of Current-Use Pesticides in Atmospheric Particulate Matter in Houston,

Texas. Bull Environ Contam Toxicol 97, 786–792 (2016). https://doi.org/10.1007/s00128-016-1914-4

Gateway Health and Environmental Effects Citations

1. EPA weight-of-evidence category, "Likely to be carcinogenic to humans." US EPA, 2005. Office of Pesticide Programs. List of Chemicals Evaluated for Carcinogenic Potential. May 10, 2005. http://www.fluoridealert.org/wp-content/pesticides/pesticides.cancer.potential.2006.pdf

2. Northwest Coalition for Alternatives to Pesticides (NCAP), Pesticide Factsheets. http://www.pesticide.org/pesticide-factsheets.

3. Environmental Defense Fund, Scorecard Database. http://www.scorecard.org/chemical-profiles/.

4. Extension Toxicology Network (EXTOXNET) Pesticide Information Profiles. http://extoxnet.orst.edu/pips/ghindex.html

5. 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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