Chemical Factsheet

Captan

General Information

- Fact Sheet: captan.pdf
- Product Names:
  Complete Rose Spray II (Bonide Products), formulated with Carbaryl, Methoxychlor, Malathion
  Insecticide Miticide Fungicide (Bonide Products), formulated with Carbaryl, Malathion
  Captan-50% WP Fruit and Ornamental Wettable Powder (Bonide Products)
  Ortho Home Orchard Spray (Solaris Group), formulated with Methoxychlor, Malathion, Magnesium carbonate, Kaolin clay, Amorphous silica (Diatomaceous silica)
  Rose RX Insect & Disease Control (Bonide Products), formulated with Carbaryl, Malathion
- Chemical Class: Chlorinated organosulfur fungicide
- Uses: Variety of terrestrial food/feed crops, greenhouse food crops, indoor food (fruit dips), indoor non-food (e.g., paints, adhesives, etc.), seed treatments and ornamental sites
- Alternatives: Organic agriculture, Organic lawn care
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

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

Additional Information

- Regulatory Status:
  - EPA Reregistration Eligibility Decision (RED) signed (9/1999)
  - Beyond Pesticides' comments on cancer classification change.
- Supporting information:
  - Daily News Blog entries (Beyond Pesticides)
  - Extoxnet captan Factsheet (Extension Toxicology Network)
  - PAN Pesticides Database: Captan (Pesticide Action Network)
- Studies [compiled from the Pesticide-Induced Diseases Database]
  - Aldehyde dehydrogenase variation enhances effect of pesticides associated with

Parkinson disease.. Fitzmaurice AG, Rhodes SL, et al. 2014. Neurology.82(5):419-26.
- Comparison of residents' pesticide exposure with predictions obtained using the UK regulatory exposure assessment approach.. Galea KS, MacCalman L, Jones K, Cocker J, et al. 2015. Regul Toxicol Pharmacol.73(2):634-43.
- Developmental neurotoxic effects of two pesticides: Behavior and biomolecular studies on chlorpyrifos and carbaryl.. Lee I, Eriksson P, Fredriksson A, et al. 2015. Toxicol Appl Pharmacol. pii: S0041-008X(15)30066-1.
- 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.
- 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.
- Associations of specific pesticides and incident rheumatoid arthritis among female spouses in the Agricultural Health Study. Parks, C. et al. (2025) Associations of specific pesticides and incident rheumatoid arthritis among female spouses in the Agricultural Health Study, Arthritis & Rheumatology. Available at: https://acrjournals.onlinelibrary.wiley.com/doi/10.1002/art.43318.
- Metabolic Effects of a Chronic Dietary Exposure to a Low-Dose Pesticide Cocktail in Mice: Sexual Dimorphism and Role of the Constitutive Androstane Receptor. Lukowicz, C., Ellero-Simatos, S., Régnier, M., Polizzi, A., Lasserre, F., Montagner, A., Lippi, Y., Jamin, E. L., Martin, J. F., Naylies, C., Canlet, C., Debrauwer, L., Bertrand-Michel, J., Al Saati, T., Théodorou, V., Loiseau, N., Mselli-Lakhal, L., Guillou, H., & Gamet-Payrastre, L. (2018). Metabolic Effects of a Chronic Dietary Exposure to a Low-Dose Pesticide Cocktail in Mice: Sexual Dimorphism and Role of the Constitutive Androstane Receptor. Environmental health perspectives, 126(6), 067007. https://doi.org/10.1289/EHP2877

Gateway Health and Environmental Effects Citations

1. EPA weight-of-evidence category, "Group B2 – Probable Human Carcinogen." US EPA, 2005. Office of Pesticide Programs. List of Chemicals Evaluated for Carcinogenic Potential. May 10, 2005. http://www.epa.gov/pesticides/carlist/

2. Beyond Pesticides ChemWatch Factsheets. (Cited under factsheets on Beyond Pesticides Gateway; see top of individual chemical page)

3. Mineau, P., A. Baril, B.T. Collins , J. Duffe, G. Joerman, R. Luttik. 2001. Reference values for comparing the acute toxicity of pesticides to birds. Reviews of Environmental Contamination and Toxicology 170:13-74. http://web.archive.org/web/20081006213641/http://www.abcbirds.org/abcprograms/policy/pesticides/aims/aims/toxicitytable.cfm

4. 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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