

# Chemical Factsheet

## Methomyl

### General Information

- Product Names:
  - Lannate (Du Pont)
  - Golden Marlin RF-128 Fly Killer (Wellmark) formulated with cis-9-Tricosene
  - Lurectron Scatterbait (Denka) formulated with cis-9-Tricosene
  - Stimukil Fly Bait (Troy) formulated with cis-9-Tricosene
- Chemical Class: Carbamate
- Uses: Restricted use pesticide. Controls insect pests on field, vegetable, and orchard crops; turf (sod farms only); livestock quarters; commercial premises; and refuse containers.
- Alternatives: [Organic agriculture](#)
- Beyond Pesticides rating: [Toxic](#)

### Health and Environmental Effects

*See citations at end of document.*

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

### Additional Information

- Regulatory Status:
  - [EPA Plans New Use Limitations on Carbaryl, Carbofuran, and Methomyl to Protect Salmon and Steelhead in California, Idaho, Oregon, and Washington](#) (5/2010)
  - [EPA Reregistration Eligibility Decision](#) (RED) signed (12/1998)
- Supporting information:
  - [Exttoxnet Methomyl Factsheet](#) (Extension Toxicology Network)
  - [PAN Pesticides Database - Methomyl](#) (Pesticide Action Network)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
  - [Effect of methomyl on the biochemical and reproductive parameters in pregnancy rats: the protective role of Pistacia Lentiscus oil](#). Mosbah, R., Mokrani, N., Mosbahi, I., Rouabhi, S. and Mantovani, A., 2016. In 18th European Congress of Endocrinology (Vol. 41). BioScientifica.
  - [Investigating the Acute Metabolic Effects of the N-Methyl Carbamate Insecticide](#).

- [Methomyl, on Mouse Liver](#). Groswald, A.M. et al. (2023) Investigating the acute metabolic effects of the N-methyl carbamate insecticide, methomyl, on Mouse Liver, *Metabolites*. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10456691/>.
- [Mixture effects of thiamethoxam and seven pesticides with different modes of action on honey bees \(\*Apis mellifera\*\)](#). Li, W. et al. (2023) Mixture effects of thiamethoxam and seven pesticides with different modes of action on honey bees (*Apis mellifera*), *Scientific Reports*. Available at: <https://www.nature.com/articles/s41598-023-29837-w#ref-CR30>.
  - [Unveiling bee pollen's contamination with pesticides and mycotoxins: Current analytical procedures, results and regulation](#). Carrera, M. et al. (2024) Unveiling bee pollen's contamination with pesticides and mycotoxins: Current analytical procedures, results and regulation, *Trends in Analytical Chemistry*. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0165993624004187>.
  - [A Th2-type immune response and low-grade systemic inflammatory reaction as potential immunotoxic effects in intensive agriculture farmers exposed to pesticides](#). Lozano-Paniagua, D. et al. (2024) 'A th2-type immune response and low-grade systemic inflammatory reaction as potential immunotoxic effects in intensive agriculture farmers exposed to pesticides', *Science of The Total Environment*, 938, p. 173545. doi:10.1016/j.scitotenv.2024.173545.
  - [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.
  - [Pesticide exposure and sleep disorder: A cross-sectional study among Thai farmers](#). Juntarawijit, C. et al. (2025) Pesticide exposure and sleep disorder: A cross-sectional study among Thai farmers, *Heliyon*. Available at: [https://www.cell.com/heliyon/fulltext/S2405-8440\(24\)17154-X](https://www.cell.com/heliyon/fulltext/S2405-8440(24)17154-X).
  - [Pesticide Residues on Three Cut Flower Species and Potential Exposure of Florists in Belgium](#). Toumi, K., Vleminckx, C., Van Loco, J., & Schiffers, B. (2016). Pesticide Residues on Three Cut Flower Species and Potential Exposure of Florists in Belgium. *International Journal of Environmental Research and Public Health*, 13(10), 943. <https://doi.org/10.3390/ijerph13100943>
  - [Prenatal residential proximity to endocrine disrupting agricultural pesticides and menstrual cycle characteristics among Latina adolescents in California](#). Paul, J. et al. (2025) Prenatal residential proximity to endocrine disrupting agricultural pesticides and menstrual cycle characteristics among Latina adolescents in California, *American Journal of Epidemiology*. Available at: <https://academic.oup.com/aje/advance-article/doi/10.1093/aje/kwaf059/8083004>.
  - [Effect of methomyl formulation, a carbamate pesticide on ovarian follicular development and fertility in albino mice](#). Shanthalatha, A., Madhuranath, B. N., & Yajurvedi, H. N. (2012). Effect of methomyl formulation, a carbamate pesticide on ovarian follicular development and fertility in albino mice. *Journal of environmental biology*, 33(1), 33–37.
  - [Assessment of genetic damage levels in agricultural workers exposed to pesticides in Paraíba, Brazil](#). Carvalho-Gonçalves, L. et al. (2025) Assessment of genetic damage levels in agricultural workers exposed to pesticides in Paraíba, Brazil, *Environmental Toxicology and Pharmacology*. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S1382668925000900>.
  - [Methomyl-induced developmental and cardiovascular toxicity in zebrafish via immune response, oxidative stress, and apoptosis](#). Lee, H. et al. (2025) Methomyl-induced developmental and cardiovascular toxicity in zebrafish via immune response, oxidative stress, and apoptosis, *Science of The Total Environment*. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0048969725018558>.
  - [Methomyl, a carbamate insecticide, forms oxygenated transformation products that inhibit acetylcholinesterase upon chlorination](#). Matsushita, T. et al. (2025) Methomyl, a

carbamate insecticide, forms oxygenated transformation products that inhibit acetylcholinesterase upon chlorination, Water Research. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0043135425009765>.

## Gateway Health and Environmental Effects Citations

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2. European Commission. Endocrine Disruptors: Study on Gathering Information on 435 Substances with Insufficient Data. Final Report. EU DG Environment: B4-3040/2001/325850/MAR/C2. BKH Consulting Engineers: M0355037. November 2002. [http://ec.europa.eu/environment/chemicals/endocrine/pdf/bkh\\_report.pdf#page=76](http://ec.europa.eu/environment/chemicals/endocrine/pdf/bkh_report.pdf#page=76).
3. Extension Toxicology Network (EXTOXNET) Pesticide Information Profiles. <http://extoxnet.orst.edu/pips/ghindex.html>
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>.
5. Yueh, MF et al. 2014. [The commonly used antimicrobial additive triclosan is a liver tumor promoter](https://doi.org/10.1073/pnas.1419119111). *PNAS* doi: 10.1073/pnas.1419119111. *Triclosan promotes liver cancer cell development and proliferation in mice through pathways common to humans.*

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