

# Chemical Factsheet

## Carbendazim

### General Information

- Product Names:  
**Troy Ex-2108**  
**Mergal BCM Technical**  
**Preventol BCM**  
**Mergal BCM**
- Chemical Class: Benzimidazoles
- Uses: In agriculture on various crops like cereals, fruits, vegetables, and ornamentals, as well as for post-harvest treatment.
- Alternatives: [Organic Agriculture](#)
- Beyond Pesticides rating: [Toxic](#)

### Health and Environmental Effects

*See citations at end of document.*

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

### Additional Information

- Regulatory Status:
  - [EPA Thiophanate-methyl and Carbendazim Interim Registration Review Decision](#) (2024)
  - [EPA Thiophanate-Methyl and Carbendazim: Draft Human Health Risk Assessment for Registration Review](#) (2020)
- Supporting information:
  - [PAN Pesticides Database: Carbendazim](#) (Pesticide Action Network)
  - [Daily News Archive](#)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
  - [Transport and interaction mechanism of four pesticide residues from Chaenomeles speciosa across Caco-2 cells](#). Xiao, J., Li, M., Zhang, M., Dai, K., Ju, X., Liu, Y., Liu, Z., Cao, H., & Shi, Y. (2024). Transport and interaction mechanism of four pesticide residues from Chaenomeles speciosa across Caco-2 cells. Food chemistry, 431, 137156. <https://doi.org/10.1016/j.foodchem.2023.137156>

- [Behavioral Effects of the Mixture and the Single Compounds Carbendazim, Fipronil, and Sulfentrazone on Zebrafish \(Danio rerio\) Larvae](#). Gomes, S. da S. et al. (2024) Behavioral effects of the mixture and the single compounds carbendazim, fipronil, and sulfentrazone on zebrafish (danio rerio) larvae, Biomedicines. Available at: <https://www.mdpi.com/2227-9059/12/6/1176>.
- [Transport mechanisms of pesticide mixtures impairing intestinal barrier function in mice](#). Liu, Z. et al. (2025) Transport mechanisms of pesticide mixtures impairing intestinal barrier function in mice, Pesticide Biochemistry and Physiology. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0048357525000690>.
- [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).
- [Antagonistic effects and mechanisms of carbendazim and chlorpyrifos on the neurobehavior of larval zebrafish](#). Zhang, W. et al. (2022) Antagonistic effects and mechanisms of Carbendazim and chlorpyrifos on the neurobehavior of larval zebrafish, Chemosphere. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S004565352200011X>.
- [Combined effects of polyethylene microplastics and carbendazim on Eisenia fetida: A comprehensive ecotoxicological study](#). Gautam, K., Dwivedi, S., Verma, R., Vamadevan, B., Patnaik, S., & Anbumani, S. (2024). Combined effects of polyethylene microplastics and carbendazim on Eisenia fetida: A comprehensive ecotoxicological study. Environmental pollution (Barking, Essex : 1987), 348, 123854. <https://doi.org/10.1016/j.envpol.2024.123854>
- [Pesticide residues in fresh fruits imported into the United Arab Emirates](#). Osaili, Tareq & Sallagi, Maryam & Kumar, Dinesh & Odeh, Wael & Ali, Hajer & Ali, Ahmed & Cheikh Ismail, Leila & Mehri, Khadija & Pisharath, Vijayan & Holley, Richard & Shaker Obaid, Reyad. (2022). Pesticide residues in fresh fruits imported into the United Arab Emirates. Heliyon. 8. e11946. 10.1016/j.heliyon.2022.e11946.
- [Pesticides residues in pet food: A market-based study on prevalence and toxicological implications](#). Macías-Montes, A. et al. (2025) Pesticides residues in pet food: A market-based study on prevalence and toxicological implications, Environmental Pollution. Available at: <https://www.sciencedirect.com/science/article/pii/S0269749125007729>.
- [Toxicity, monitoring and biodegradation of the fungicide carbendazim](#). Singh, S., Singh, N., Kumar, V. et al. Toxicity, monitoring and biodegradation of the fungicide carbendazim. Environ Chem Lett 14, 317–329 (2016). <https://doi.org/10.1007/s10311-016-0566-2>
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## Gateway Health and Environmental Effects Citations

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2. National Library of Medicine. PubChem Hazardous Substances Database. [PubChem \(nih.gov\)](https://pubchem.ncbi.nlm.nih.gov/)