Chemical Factsheet

Thiacloprid

General Information

- Product Names:
  Calypso (Bayer)
- Chemical Class: Chloronicotinoid Insecticide
- Uses: On the agricultural crops cotton and pome fruits for control of a variety of sucking insects. The primary target pests for thiacloprid on cotton are aphids and whiteflies; Psylla, codling moth and plum Curculio are the primary pests on pome fruits.
- Alternatives: Organic agriculture
- Beyond Pesticides rating:

Health and Environmental Effects

See citations at end of document.

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

Residential Uses as Found in the ManageSafe™ Database

- Bed Bugs

Additional Information

- Regulatory Status:
  - EPA Conditional Registration Issued 9/2006
- Supporting information:
  - PAN Pesticides Database: Thiacloprid (Pesticide Action Network)
- Studies [compiled from the Pesticide-Induced Diseases Database]
  - Effects of neonicotinoid pesticide exposure on human health: a systematic review. Cimino AM, Boyles AL, Thayer KA, Perry MJ. 2017. Environ Health Perspect. 125:155–162
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Rodrigues, A., Millet, M., Bretagnolle, V., Moreau, J. and Monceau, K., 2023. Chemosphere, 321, p.138091.
- Prevalence of neonicotinoid insecticides in paired private-well tap water and human urine samples in a region of intense agriculture overlying vulnerable aquifers in eastern Iowa. Thompson, D.A., Kolpin, D.W., Hladik, M.L., Lehmler, H.J., Meppelink, S.M., Poch, M.C., Vargo, J.D., Soupene, V.A., Irfan, N.M., Robinson, M. and Kannan, K., 2023. Chemosphere, 319, p.137904.
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- Immunosuppression in Honeybee Queens by the Neonicotinoids Thiacloprid and Clothianidin. Brandt, A. et al. (2017) Immunosuppression in honeybee queens by the neonicotinoids Thiacloprid and Clothianidin, Scientific Reports. Available at: https://pubmed.ncbi.nlm.nih.gov/28680118/.
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- Neonicotinoid pesticides: evidence of developmental neurotoxicity from regulatory rodent studies. Sass, J.B., Donley, N. and Freese, W. (2024) Neonicotinoid pesticides: evidence of developmental neurotoxicity from regulatory rodent studies, Frontiers in Toxicology. Available at: https://www.frontiersin.org/journals/toxicology/articles/10.3389/ftox.2024.1438890/full.
- Neuroprotective effect of piracetam-loaded magnetic chitosan nanoparticles against thiacloprid-induced neurotoxicity in albino rats. Abomosallam, M., Hendam, B.M., Abdallah, A.A. et al. Neuroprotective effect of piracetam-loaded magnetic chitosan nanoparticles against thiacloprid-induced neurotoxicity in albino rats. Inflammopharmacol 31, 943–965 (2023). https://doi.org/10.1007/s10787-023-01151-x
- 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.
- Current-use pesticides in vegetation, topsoil and water reveal contaminated landscapes of the Upper Rhine Valley, Germany. Mauser, K.M., Wolfram, J., Spaak, J.W. et al. Current-use pesticides in vegetation, topsoil and water reveal contaminated landscapes of the Upper Rhine Valley, Germany. Commun Earth Environ 6, 166 (2025). https://doi.org/10.1038/s43247-025-02118-2
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Gateway Health and Environmental Effects Citations

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