Chemical Factsheet

Phorate

General Information

- Product Names:
  Thimet (AMVAC)
  Clean Crop Phorate (Loveland)
- Chemical Class: Organophosphorus
- Uses: Control Mexican bean beetle, corn rootworm, mites, European cornborers, wireworms, white grubs, corn leaf aphids, seedcorn beetles, leaf miners, thrips, black cutworms, leafhoppers, white flies, nematodes, southern corn rootworm, flea beetle larvae, psyllids, Colorado potato beetle, lygus, chinchbug nymphs, Bank's grass mites, seedcorn maggots, sugar beet root maggot, sugar beet leafhopper, grasshoppers and Hessian fly.
- Alternatives: Organic agriculture
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

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

Additional Information

- Regulatory Status:
  - EPA Reregistration Eligibility Decision (revised 03/2008)
- Supporting information:
  - Extoxnet: Phorate (Extension Toxicology Network)
  - PAN Pesticide Database (Pesticide Action Network)
- Studies [compiled from the Pesticide-Induced Diseases Database]
  - Hypospadias and residential proximity to pesticide applications.. Carmichael SL, Yang W, Roberts EM, et al. 2013. Pediatrics. 132(5):e1216-26
  - High Pesticide Exposure Events and Dream-Enacting Behaviors Among US Farmers. Yuan, Y., Shrestha, S., Luo, Z., Li, C., Plassman, B.L., Parks, C.G., Hofmann, J.N., Beane Freeman, L.E., Sandler, D.P. and Chen, H. (2022), High Pesticide Exposure Events and Dream-Enacting Behaviors Among US Farmers. Mov Disord, 37: 962-971.

https://doi.org/10.1002/mds.28960
- Occurrence and ecological risk of typical pesticides in a river–lake system. Qin, Y. et al. (2025) Occurrence and ecological risk of typical pesticides in a river–lake system, Water Science and Engineering. Available at: https://www.sciencedirect.com/science/article/pii/S1674237025000833.
- Temporal trends of agricultural organophosphate pesticide use in California and proximity to pregnant people in 2021. Rotkin-Ellman, M., Carpenter, C., Richardson, M.J. et al. Temporal trends of agricultural organophosphate pesticide use in California and proximity to pregnant people in 2021. BMC Public Health 25, 3121 (2025). https://doi.org/10.1186/s12889-025-23939-y

Gateway Health and Environmental Effects Citations

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

2. 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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