Chemical Factsheet

Chlorpropham (CIPC)

General Information

- Product Names:
  Biox (Pace)
  Aceto Spud Nic-3 EC (Aceto)
  Spud Guard (Dataplex)
  Sprout Nip (Loveland)
  Decco (Decco Us Post-Harvest, Inc.)
- Chemical Class: Carbamate Herbicide
- Uses: Control of mouseear chickweed in spinach, also used as part of an IPM method to decrease incidence of Botrytis infection (a fungal disease) in Easter lilies. As a plant growth regulator inhibits sprouting in stored potatoes and controls fruiting in ginkgo trees.
- Alternatives: Organic Agriculture, Non-Toxic Lawns and Landscapes
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

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

Additional Information

- Regulatory Status:
  - EPA Reregistration Eligibility Decision (RED) Signed 10/1996
- Supporting information:
  - PAN Pesticides Database: Chlorpropham (Pesticide Action Network)
  - Chlorpropham Factsheet (EXTOXNET)
  - PubChem Hazardous Substances Database (National Library of Medicine)
- Studies [compiled from the Pesticide-Induced Diseases Database]
  - Chlorpropham, a carbamate ester herbicide, has an endocrine-disrupting potential by inhibiting the homodimerization of human androgen receptor. Jeong, Da-Hyun & Jung, Da-Woon & Jang, Cheol-Ho & Kim, Uk-Jin & Park, Yooheon & Park, Yeonhwa & Lee, Hee-Seok. (2023). Chlorpropham, a carbamate ester herbicide, has an endocrine-disrupting potential

by inhibiting the homodimerization of human androgen receptor. Environmental Pollution. 325. 121437. 10.1016/j.envpol.2023.121437.
- Developmental toxicity of chlorpropham induces pathological changes and vascular irregularities in zebrafish embryos. Lee, J. Y., Park, H., Lim, W., & Song, G. (2020). Developmental toxicity of chlorpropham induces pathological changes and vascular irregularities in zebrafish embryos. Comparative biochemistry and physiology. Toxicology & pharmacology : CBP, 236, 108802. https://doi.org/10.1016/j.cbpc.2020.108802
- Wastewater surveillance for assessing human exposure to pesticides: Investigating populations living near flower bulb fields. Bijlsma, L. et al. (2025) Wastewater surveillance for assessing human exposure to pesticides: Investigating populations living near flower bulb fields, Journal of Environmental Chemical Engineering. Available at: https://www.sciencedirect.com/science/article/pii/S2213343725017865.
- Trends in airborne pesticides: A retrospective analysis of the last two decades (2007–2024) in a Mediterranean Region. López, A., Fuentes-Ferragud, E., Muñoz, A., Borràs, E., Vera, T., & Coscollà, C. (2025). Trends in airborne pesticides: A retrospective analysis of the last two decades (2007-2024) in a Mediterranean Region. Environmental pollution (Barking, Essex : 1987), 383, 126770. Advance online publication. https://doi.org/10.1016/j.envpol.2025.126770
- Chlorpropham induces mitochondrial dysfunction in rat hepatocytes. Nakagawa, Y., Nakajima, K., & Suzuki, T. (2004). Chlorpropham induces mitochondrial dysfunction in rat hepatocytes. Toxicology, 200(2-3), 123–133. https://doi.org/10.1016/j.tox.2004.03.012
- Subchronic toxicity of chlorpropham (CIPC) in ICR mice. Fujitani, T., Tada, Y., Fujii, A., Kimura, M., & Yoneyama, M. (2000). Subchronic toxicity of chlorpropham (CIPC) in ICR mice. Food and chemical toxicology : an international journal published for the British Industrial Biological Research Association, 38(7), 617–625. https://doi.org/10.1016/s0278-6915(00)00043-0
- Developmental toxicity of chlorpropham in mice. Tanaka, T., Fujitani, T., Takahashi, O., Oishi, S., & Yoneyama, M. (1997). Developmental toxicity of chlorpropham in mice. Reproductive toxicology (Elmsford, N.Y.), 11(5), 697–701. https://doi.org/10.1016/s0890-6238(97)00030-0

Gateway Health and Environmental Effects Citations

1. National Library of Medicine. PubChem Hazardous Substances Database. PubChem (nih.gov)

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.

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

Factsheet generated on July 9, 2026