Chemical Factsheet

Ziram

General Information

- Product Names:
  Vancide R.T. (Vanderbilt)
  Niagara (FMC)
  Prokil (Gowan)
  Repel #2 Wild Animal Repellent (Chacon Chemical)
  Rabbit Scat (Bonide Products), formulated with Paradichlorobenzene, Alkyl pyridines, Thiram
- Chemical Class: Dithiocarbamate fungicide
- Uses: Control of fungal diseases on crops including stone fruits, pome fruits, nut crops, vegetables and commercially grown ornamentals; rabbit repellent for ornamentals; and an additive in industrial adhesives, caulking, and latex paints
- Alternatives: Organic agriculture, organic lanwn care
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

- Cancer: Likely (**1**)
- Endocrine Disruption: Yes (**2**)
- Reproductive Effects: Not documented
- Neurotoxicity: Yes (**3**)
- Kidney/Liver Damage: Yes (**4**)
- Sensitizer/ Irritant: Yes (**5**)
- Birth/Developmental: Not documented
- Detected in Groundwater: Not documented
- Potential Leacher: Yes (**4**)
- Toxic to Birds: Yes (**6**)
- Toxic to Fish/Aquatic Organisms: Yes (**6**, **7**)
- Toxic to Bees: Not documented

Additional Information

- Regulatory Status:
  - EPA Reregistration Eligibility Decision (RED) signed (9/2003)
- Supporting information:
  - Extoxnet Ziram Factsheet (Extension Toxicology Network)
  - PAN Pesticides Database:Ziram (Pesticide Action Network)
  - Scorecard Ziram Factsheet (The Pollution Information Site)
- Studies [compiled from the Pesticide-Induced Diseases Database]
  - Aldehyde dehydrogenase variation enhances effect of pesticides associated with Parkinson disease.. Fitzmaurice AG, Rhodes SL, et al. 2014. Neurology.82(5):419-26.
  - Combined exposure to low doses of pesticides causes decreased birth weights in rats. Hass U, Christiansen S, Axelstad M, Scholze M, Boberg J. 2017. Reprod Toxicol. 72:97-105

- Pesticides expenditures by farming type and incidence of Parkinson disease in farmers: A French nationwide study. Perrin, L., Spinosi, J., Chaperon, L., Kab, S., Moisan, F. and Ebaz, A. Environmental Research, 197, p.111161.
- Pesticide exposure and risk of cardiovascular disease: A systematic review. Zago, A. M., Faria, N. M. X., Fávero, J. L., Meucci, R. D., Woskie, S., & Fassa, A. G. (2022). Pesticide exposure and risk of cardiovascular disease: A systematic review. Global public health, 17(12), 3944–3966. https://doi.org/10.1080/17441692.2020.1808693
- Metabolic Effects of a Chronic Dietary Exposure to a Low-Dose Pesticide Cocktail in Mice: Sexual Dimorphism and Role of the Constitutive Androstane Receptor. Lukowicz, C., Ellero-Simatos, S., Régnier, M., Polizzi, A., Lasserre, F., Montagner, A., Lippi, Y., Jamin, E. L., Martin, J. F., Naylies, C., Canlet, C., Debrauwer, L., Bertrand-Michel, J., Al Saati, T., Théodorou, V., Loiseau, N., Mselli-Lakhal, L., Guillou, H., & Gamet-Payrastre, L. (2018). Metabolic Effects of a Chronic Dietary Exposure to a Low-Dose Pesticide Cocktail in Mice: Sexual Dimorphism and Role of the Constitutive Androstane Receptor. Environmental health perspectives, 126(6), 067007. https://doi.org/10.1289/EHP2877

Gateway Health and Environmental Effects Citations

1. EPA weight-of-evidence category, "Likely to be carcinogenic to humans." US EPA, 2005. Office of Pesticide Programs. List of Chemicals Evaluated for Carcinogenic Potential. May 10, 2005. http://www.fluoridealert.org/wp-content/pesticides/pesticides.cancer.potential.2006.pdf

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.

3. Gosselin, R.E., R.P. Smith, and H.C. Hodge. 1984. Clinical Toxicology of Commerical Products, 5th edition. Baltimore, MD: Williams and Wilkins.

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

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

6. 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.

7. Briggs, S.A. 1992. Basic Guide to Pesticides: Their Characteristics and Hazards. Washington, DC: The Rachel Carson Council, 98. https://www.cabdirect.org/cabdirect/abstract/19932334845

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