Chemical Factsheet

Isoxaben

General Information

- Product Names:
  Preen Pro (Lebanon Seaboard), formulated with Trifluralin
  Weed-Free One Eleven (Harrell's) Trifluralin
  Isoxaben 75DF (Specialty Loveland Products)
  Snapshot 80 DF (Dow), formulated with Oryzalin
  Showcase (Dow), formulated with Oryzalin, Trifluralin
- Chemical Class: Amide herbicide
- Uses: Rights-of-way, landscape, nurseries
- Alternatives: Least toxic rights-of-way managment, organic lawn care, least-toxic pest managment
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

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

Residential Uses as Found in the ManageSafe™ Database

- Dandelions
- Plantains

Additional Information

- Regulatory Status:
  - EPA Chemical Landing - Isoxaben
- Supporting information:
  - PAN Pesticides Database:Isoxaben (Pesticide Action Network)
- Studies [compiled from the Pesticide-Induced Diseases Database]
  - Enhanced resistance to the cellulose biosynthetic inhibitors, thaxtomin A and isoxaben in Arabidopsis thaliana mutants, also provides specific co-resistance to the auxin transport

inhibitor, 1-NPA. Tegg, R. S., Shabala, S. N., Cuin, T. A., Davies, N. W., & Wilson, C. R. (2013). Enhanced resistance to the cellulose biosynthetic inhibitors, thaxtomin A and isoxaben in Arabidopsis thaliana mutants, also provides specific co-resistance to the auxin transport inhibitor, 1-NPA. BMC plant biology, 13, 76. https://doi.org/10.1186/1471-2229-13-76
- Isoxaben soil biodegradation in pear tree orchard after repeated high dose application. Rouchaud J, Neus O, Bulcke R, Callens D, Dekkers T. Isoxaben soil biodegradation in pear tree orchard after repeated high dose application. Arch Environ Contam Toxicol. 1997 Oct;33(3):247-51. doi: 10.1007/s002449900250. PMID: 9353201.

Gateway Health and Environmental Effects Citations

1. EPA weight-of-evidence category, "possible human carcinogen." US EPA, 2004. Office of Pesticide Programs. List of Chemicals Evaluated for Carcinogenic Potential. July 29, 2004. http://www.epa.gov/pesticides/carlist/

2. US EPA. Integrated Risk Information System Database. http://www.epa.gov/iris/.

3. 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.

4. The Pesticide Management Education Program at Cornell University. Pesticide Active Ingredient Information. http://pmep.cce.cornell.edu/profiles/index.html.

5. 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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