

Chemical Factsheet

Oxadiazon

General Information

- Product Names:
 - Crabgrass Control/Golf Products** (The Andersons)
 - Oxadiazon 2G** (FarmSaver, LLC)
 - Ronstar** (Bayer)
 - Two Ox SPC** (Nufram Americas Inc.)
- Chemical Class: Oxadiazole herbicide
- Uses: Pre-emergent or early post-emergent herbicide used to control grassy weeds (e.g., goosegrass and crabgrass) and broadleaf weeds in turf and ornamentals. Oxadiazon use sites are classified as nonfood sites (i.e., primarily golf course fairways), residential outdoor use, roadsides and nurseries.
- Alternatives: [Organic agriculture](#), [Organic Lawn care](#), [Organic Golf Courses](#)
- Beyond Pesticides rating: [Toxic](#)

Health and Environmental Effects

See citations at end of document.

- Cancer: Yes ([1](#), [2](#), [3](#))
- Endocrine Disruption: Likely ([2](#), [4](#), [5](#))
- Reproductive Effects: Yes ([6](#), [7](#))
- Neurotoxicity: Likely ([2](#))
- Kidney/Liver Damage: Yes ([6](#), [2](#), [3](#))
- Sensitizer/ Irritant: No ([6](#), [8](#))
- Birth/Developmental: Yes ([6](#), [7](#))
- Detected in Groundwater: Yes ([9](#), [10](#))
- Potential Leacher: Not Likely ([6](#))
- Toxic to Birds: Slightly ([6](#), [11](#))
- Toxic to Fish/Aquatic Organisms: Likely ([6](#), [12](#), [8](#))
- Toxic to Bees: Not Likely ([6](#), [13](#))

Additional Information

- Regulatory Status:
 - [Reregistration Eligibility Decision for Oxadiazon](#) (EPA)
- Supporting information:
 - [PAN Pesticides Database: Oxadiazon](#) (Pesticide Action Network)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
 - [Pesticide contamination of bird species from Doñana National Park \(southwestern Spain\): Temporal trends \(1999-2021\) and reproductive impacts](#). Peris, A., Baos, R., Martínez, A., Sergio, F., Hiraldo, F. and Eljarrat, E., Available at SSRN 4312955.
 - [Organic farming reduces pesticide load in a bird of prey](#). Fuentes, E. et al. (2024) Organic farming reduces pesticide load in a bird of prey, *Science of The Total Environment*. Available at: <https://www.sciencedirect.com/science/article/pii/S0048969724029255>.

- [Immune response of Brazilian farmers exposed to multiple pesticides](#). Jacobsen-Pereira, C.H. et al. (2020) 'Immune response of Brazilian farmers exposed to multiple pesticides', *Ecotoxicology and Environmental Safety*, 202, p. 110912. doi:10.1016/j.ecoenv.2020.110912.

Gateway Health and Environmental Effects Citations

1. US EPA Office of Pesticide Programs. List of Chemicals Evaluated for Carcinogenic Potential. October 30, 2023. http://npic.orst.edu/chemicals_evaluated.pdf
2. Degl'Innocenti, D., Ramazzotti, M., Sarchielli, E., Monti, D., Chevanne, M., Vannelli, G.B. and Barletta, E., 2019. Oxadiazon affects the expression and activity of aldehyde dehydrogenase and acylphosphatase in human striatal precursor cells: a possible role in neurotoxicity. *Toxicology*, 411, pp.110-121. <https://doi.org/10.1016/j.tox.2018.10.021>
3. Kuwata, K., Inoue, K., Ichimura, R., Takahashi, M., Kodama, Y. and Yoshida, M., 2016. Constitutive active/androstane receptor, peroxisome proliferator-activated receptor α , and cytotoxicity are involved in oxadiazon-induced liver tumor development in mice. *Food and Chemical Toxicology*, 88, pp.75-86. <https://doi.org/10.1016/j.fct.2015.12.017>
4. Lemaire, G., Mnif, W., Pascussi, J.M., Pillon, A., Rabenoelina, F., Fenet, H., Gomez, E., Casellas, C., Nicolas, J.C., Cavailles, V. and Duchesne, M.J., 2006. Identification of new human pregnane X receptor ligands among pesticides using a stable reporter cell system. *Toxicological Sciences*, 91(2), pp.501-509. <https://doi.org/10.1093/toxsci/kfj173>
5. Laville, N., Balaguer, P., Brion, F., Hinfray, N., Casellas, C., Porcher, J.M. and Aït-Aïssa, S., 2006. Modulation of aromatase activity and mRNA by various selected pesticides in the human choriocarcinoma JEG-3 cell line. *Toxicology*, 228(1), pp.98-108. <https://doi.org/10.1016/j.tox.2006.08.021>
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. Pesticide Action Network Pesticide Database. http://www.pesticideinfo.org/Search_Chemicals.jsp.
8. Pietrzak, D., Kania, J., Malina, G., Kmiecik, E. and Wątor, K., 2019. Pesticides from the EU first and second Watch Lists in the water environment. *Clean-Soil, Air, Water*, 47(7), p.1800376. <https://doi.org/10.1002/clen.201800376>
9. Meffe, R. and de Bustamante, I., 2014. Emerging organic contaminants in surface water and groundwater: a first overview of the situation in Italy. *Science of the Total Environment*, 481, pp.280-295. <https://doi.org/10.1016/j.scitotenv.2014.02.053>
10. Fava, L., Orrù, M.A., Scardala, S., Alonso, E., Fardella, M., Strumia, C., Martinelli, A., Finocchiaro, S., Previtera, M., Franchi, A. and Calà, P., 2010. Pesticides and their metabolites in selected Italian groundwater and surface water used for drinking. *Annali dell'Istituto superiore di sanità*, 46, pp.309-316. https://www.scielosp.org/article/ssm/content/raw/?resource_ssm_path=/media/assets/aiss/v46n3/v46n3a15.pdf
11. Bayer Environmental. 2018. Safety Data Sheet: RONSTAR® G HERBICIDE. https://www.domyown.com/msds/Ronstar_G_SDS.pdf

12. Oluah, N.S., Mgbenka, B.O., Nwani, C.D., Aguzie, I.O., Ngene, I.C. and Oluah, C., 2020. Tissue-specific changes in Ca²⁺-ATPase and Na⁺/K⁺-ATPase activities in freshwater African catfish *Clarias gariepinus* juvenile exposed to oxadiazon. *The Journal of Basic and Applied Zoology*, 81(1), pp.1-12. <https://link.springer.com/article/10.1186/s41936-020-00186-8>

13. Devillers, J., 2002. Acute toxicity of pesticides to honey bees. *Honey bees: estimating the environmental impact of chemicals*. London: Taylor and Francis, pp.56-66. <https://books.google.com/books>

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