Chemical Factsheet

Simazine

General Information

- Product Names:
  Princep (Syngenta)
  Algiclear (WECO Products)
- Chemical Class: Chlorinated triazine herbicide
- Uses: Controls most annual grasses and broadleaf weeds before they emerge or after removal of weed growth used for fruit and nut crops, such as apples, oranges, and almonds, in addition to corn, forestry sites and on turfgrass (residential and comerically grown) industrial sites, highway medians and shoulders, railroad rights-of-way, lumberyards, petroleum tank farms; also used as an algaecide in small ornamental ponds and aquariums.
- Alternatives: Organic agriculture, Organic christmas trees, Least-toxic weed control
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

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

Additional Information

- Regulatory Status:
  - EPA Reregistration Eligibility Decision (RED) signed (4/2006)
  - BP Comments December 2025
- Supporting information:
  - Extoxnet Simazine Factsheet (Extension Toxicology Network)
  - PAN Pesticides Database: Simazine (Pesticide Action Network)
- Studies [compiled from the Pesticide-Induced Diseases Database]
  - Impaired development of female mouse offspring maternally exposed to simazine. Park S, Kim S, et al. 2014. Environ Toxicol Pharmacol. 38(3):845-51
  - The influence of polyethylene microplastics on pesticide residue and degradation in the aquatic environment. Wang, F., Gao, J., Zhai, W., Liu, D., Zhou, Z., & Wang, P. (2020). The influence of polyethylene microplastics on pesticide residue and degradation in the

aquatic environment. Journal of hazardous materials, 394, 122517. https://doi.org/10.1016/j.jhazmat.2020.122517
- A regional assessment of chemicals of concern in surface waters of four Midwestern United States national parks. Elliott, S. M., & VanderMeulen, D. D. (2017). A regional assessment of chemicals of concern in surface waters of four Midwestern United States national parks. The Science of the total environment, 579, 1726–1735. https://doi.org/10.1016/j.scitotenv.2016.11.114
- Occurrence of Current-Use Pesticides in Paired Indoor Dust, Drinking Water, and Urine Samples from the United States: Risk Prioritization and Health Implications. Xie, Y., Li, J., Salamova, A., & Zheng, G. (2025). Occurrence of Current-Use Pesticides in Paired Indoor Dust, Drinking Water, and Urine Samples from the United States: Risk Prioritization and Health Implications. Environmental science & technology, 59(25), 12507–12519. https://doi.org/10.1021/acs.est.5c00961
- Multidecadal Change in Pesticide Concentrations Relative to Human Health Benchmarks in the Nation's Groundwater. Stackpoole, S., Lindsey, B. and Nell, C. (2025) National Water Quality Program: Multidecadal Change in Pesticide Concentrations Relative to Human Health Benchmarks in the Nation's Groundwater, U.S. Geological Survey. Available at: https://pubs.usgs.gov/sir/2025/5081/sir20255081.pdf.
- Pesticide Prioritization by Potential Biological Effects in Tributaries of the Laurentian Great Lakes. Oliver, S.K., Corsi, S.R., Baldwin, A.K., Nott, M.A., Ankley, G.T., Blackwell, B.R., Villeneuve, D.L., Hladik, M.L., Kolpin, D.W., Loken, L., DeCicco, L.A., Meyer, M.T. and Loftin, K.A. (2023), Pesticide Prioritization by Potential Biological Effects in Tributaries of the Laurentian Great Lakes. Environ Toxicol Chem, 42: 367-384. https://doi.org/10.1002/etc.5522
- Species-specific aquatic habitat use predicts pesticide residues in feces of insectivorous birds and bats. Lorenz, S. et al. (2026) Species-specific aquatic habitat use predicts pesticide residues in feces of insectivorous birds and bats, Environmental Pollution. Available at: https://www.sciencedirect.com/science/article/pii/S0269749126005762.

Gateway Health and Environmental Effects Citations

1. 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.

2. Agency for Toxic Substances and Disease Registry. ToxFAQs. http://www.atsdr.cdc.gov/toxfaqs/index.asp.

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

4. 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.

5. U.S. Geological Survey, Pesticides in the Nation's Streams and Ground Water, 1992-2001. http://water.usgs.gov/nawqa/pnsp/pubs/circ1291/appendix7.

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