

# Chemical Factsheet

## Propiconazole

### General Information

- Product Names:
  - Tilt** (Syngenta)
  - Banner** (Syngenta)
  - Orbit** (Syngenta)
  - Quilt** (Syngenta) formulated with [Azoxyastrobin](#)
  - Prop-Shield** (Syngenta)
  - Colony** (Syngenta)
  - Riverdale Banderole** (Nufarm)
  - Busan 1366** (Buckman Laboratories)
  - Fitness** (Loveland)
  - Preventol** (Lanxess)
  - Wocosen** (Janssen)
  - Safetray** (Janssen)
  - Kestrel** (United Phosphorus)
  - Fathom** (Prokoz)
- Chemical Class: Azole
- Uses: Controls bacteria, fungi, viruses, also used as a wood preservative
- Alternatives: [Organic agriculture](#)
- Beyond Pesticides rating: [Toxic](#)

### Health and Environmental Effects

*See citations at end of document.*

- Cancer: Possibly (1)
- Endocrine Disruption: No
- Reproductive Effects: No
- Neurotoxicity: No
- Kidney/Liver Damage: Yes (1)
- Sensitizer/Irritant: No
- Birth/Developmental: No
- Detected in Groundwater: Not documented
- Potential Leacher: Not documented
- Toxic to Birds: Not documented
- Toxic to Fish/Aquatic Organisms: Yes (1)
- Toxic to Bees: Not documented

### Residential Uses as Found in the ManageSafe™ Database

- [Mold](#)

## Additional Information

- Regulatory Status:
  - [EPA Reregistration Eligibility Decision](#) (revised 07/2006)
- Supporting information:
  - [PAN Pesticides Database: Propiconazole](#)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
  - [Chronic exposure to the fungicide propiconazole: Behavioral and reproductive evaluation of F1 and F2 generations of male rats.](#) Vieira ML, Costa NO, Pereira MRF, et al. 2017. *Toxicology*. 389:85-93.
  - [Mammary Gland Development in Male Rats Perinatally Exposed to Propiconazole, Glyphosate, or their Mixture.](#) Gomez, A.L., Altamirano, G.A., Alcaraz, M.R., Montemurro, M., Schierano-Marotti, G., Oddi, S.L., Culzoni, M.J., Muñoz-de-Toro, M., Bosquiazzo, V.L. and Kass, L., 2023. *Environmental Toxicology and Pharmacology*, p.104184.
  - [Thyroid under Attack: The Adverse Impact of Plasticizers, Pesticides, and PFASs on Thyroid Function.](#) Rodrigues, V.G. et al. (2024) *Thyroid under Attack: The Adverse Impact of Plasticizers, Pesticides, and PFASs on Thyroid Function*, *Endocrines*. Available at: <https://www.mdpi.com/2673-396X/5/3/32>.
  - [Pesticides and prostate cancer incidence and mortality: An environment-wide association study.](#) Soerensen, S. et al. (2024) *Pesticides and prostate cancer incidence and mortality: An environment-wide association study*, *Cancer*. Available at: <https://acsjournals.onlinelibrary.wiley.com/doi/10.1002/cncr.35572>.
  - [Triazole pesticides exposure impaired steroidogenesis associated to an increase in AHR and CAR expression in testis and altered sperm parameters in chicken.](#) Serra, L., Bourdon, G., Estienne, A., Fréville, M., Ramé, C., Chevaleyre, C., Didier, P., Chahnamian, M., Ganier, P., Pinault, F., Froment, P., & Dupont, J. (2023). *Triazole pesticides exposure impaired steroidogenesis associated to an increase in AHR and CAR expression in testis and altered sperm parameters in chicken*. *Toxicology reports*, 10, 409–427. <https://doi.org/10.1016/j.toxrep.2023.03.005>
  - [Cardiotoxicity and triazole pesticides: therapeutic options for a neglected heart disease.](#) Souza, D. and Roman-Campos, D. (2025) *Cardiotoxicity and triazole pesticides: therapeutic options for a neglected heart disease*, *Expert Review of Cardiovascular Therapy*. Available at: <https://www.tandfonline.com/doi/full/10.1080/14779072.2025.2476124>.
  - [Fate of pesticide residues in beer and its by-products.](#) Hakme, E., Kallehauge Nielsen, I., Fermina Madsen, J., Storkehave, L. M., Skjold Elmelund Pedersen, M., Schulz, B. L., ... Duedahl-Olesen, L. (2023). *Fate of pesticide residues in beer and its by-products*. *Food Additives & Contaminants: Part A*, 41(1), 45–59. <https://doi.org/10.1080/19440049.2023.2282557>
  - [Combined exposure to sublethal concentrations of an insecticide and a fungicide affect feeding, ovary development and longevity in a solitary bee.](#) Sgolastra Fabio, Arnan Xavier, Cabbri Riccardo, Isani Gloria, Medrzycki Piotr, Teper Dariusz and Bosch Jordi 2018 *Combined exposure to sublethal concentrations of an insecticide and a fungicide affect feeding, ovary development and longevity in a solitary bee* *Proc. R. Soc.* B.28520180887 <http://doi.org/10.1098/rspb.2018.0887>
  - [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>

- [Chronic oral lethal and sub-lethal toxicities of different binary mixtures of pesticides and contaminants in bees \(\*Apis mellifera\*, \*Osmia bicornis\* and \*Bombus terrestris\*\)](#). Spurgeon, David & Hesketh, Helen & Lahive, Elma & Svendsen, Claus & Baas, Jan & Robinson, Alex & Horton, Alice & Heard, Matthew. (2016). Chronic oral lethal and sub-lethal toxicities of different binary mixtures of pesticides and contaminants in bees (*Apis mellifera*, *Osmia bicornis* and *Bombus terrestris*). EFSA Supporting Publications. 13. 10.2903/sp.efsa.2016.EN-1076.
- [Occurrence and ecological risk of typical pesticides in a river-lake system](#). Qin, Y. et al. (2025) Occurrence and ecological risk of typical pesticides in a river-lake system, Water Science and Engineering. Available at: <https://www.sciencedirect.com/science/article/pii/S1674237025000833>.
- [Combined pesticide pollution enhances the dissemination of the phage-encoded antibiotic resistome in the soil under nitrogen deposition](#). Shen, Luo-Qin et al. "Combined pesticide pollution enhances the dissemination of the phage-encoded antibiotic resistome in the soil under nitrogen deposition." Proceedings of the National Academy of Sciences of the United States of America vol. 122,40 (2025): e2516722122. doi:10.1073/pnas.2516722122
- [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>

## Gateway Health and Environmental Effects Citations

1. 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>.

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