Chemical Factsheet

Prallethrin

General Information

- Fact Sheet: Synthetic Pyrethroids.pdf
- Product Names:
  Cirrus™ Fogging Concentrate (MGK®)
  Duet® Dual Action Adulticide (Clarke)
  Multicide® Fogging Concentrate (McLaughlin Gormley King Company)
  Prallethrin Technical (Sumitomo Chemical Australia Pty Ltd)
  Raid® Multi Insect Killer 7 (S.C. Johnson)
  Repel-X®(Farnam Companies, Inc)
  SSS Flying Insect spray (Triple S)
  Stryker Wasp and Hornet Killer (Control Solutions, Inc.)
- Chemical Class: (Type I) Synthetic Pyrethroid Insecticide
- Uses: Agriculture, Residential / household, animal health (pet-cleaning products, pet-flea collar treatments), and against various insects (mosquitoes, ants, houseflies, fleas, ticks and cockroaches)
- Alternatives: **ManageSafe™**, **Organic Agriculture**, **Least-toxic mosquito control**
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

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

Residential Uses as Found in the ManageSafe™ Database

- Fleas
- Mosquitoes
- Ticks
- Cockroaches
- Carpenter Ants
- Fire Ants
- Ants

Additional Information

- Regulatory Status:
  - **Pesticide Registration Review: Proposed Interim Decisions for Several Pesticides** (05/05/2020)
  - **NOTICE OF PESTICIDE: Registration (under FIFRA) of** Duet HD Dual-Action Adulticide (01/29/16)
  - **Prallethrin; Pesticide Tolerances a Rule by the Environmental Protection Agency** (10/29/2014)
  - **Registration Review; Pesticide Dockets Opened for Review and Comment and Other Action** (07/06/2012)
  - **Prallethrin Summary Document / and Preliminary Work Plan** (06/08/2012)
  - **Prallethrin: Human Health Risk Assessment for the Public Health Use of Mosquito Adulticides Containing Prallethrin.**(11/21/2003)
  - **Label Change: WHITMIRE TC 161 INJECTION SYSTEM** (09/23/2002)
  - **Registration of EVERCIDE® Residual And & Roach Spray (EPA Reg. No. 1021-1601), Containing the New Active Ingredient Prallethrin (ETOC)** (07/11/1997)
  - **NOTICE OF PESTICIDE: Registration (under FIFRA) of WHITMIRE TC 161 INJECTION SYSTEM** (04/09/1997)
- Supporting information:
  - **Appendix D** Pesticide Technical Background Information (Blankinship & Associates, Inc)
  - Pesticide Database: Prallethrin (Pesticide Action Network)
  - Pesticide Properties DataBase (PPDB): Prallethrin (University of Hertforshire, UNited Kingdom)
  - Specifications and Evaluations or Public Health Pesticides: PRALLETHRIN (World Health Organization)
- Studies:
  - Allethrin and prallethrin stimulates MUC5AC expression through oxidative stress in human airway epithelial cells Na, H.G., Kim, Y.D., Choi, Y.S., Bae, C.H. and Song, S.Y., 2018. *Biochemical and biophysical research communications*, *503*(1), pp.316-322.
  - Cardiac Conduction Disturbance Due To Prallethrin (Pyrethroid) Poisoning Bhaskar, E.M., Moorthy, S., Ganeshwala, G. and Abraham, G., 2010. *Journal of Medical Toxicology*, *6*(1), pp.27-30.

Gateway Health and Environmental Effects Citations

1. Mossa, A.T.H., Refaie, A.A., Ramadan, A. and Bouajila, J., 2013. Antimutagenic effect of Origanum majorana L. essential oil against prallethrin-induced genotoxic damage in rat bone marrow cells. *Journal of medicinal food*, *16*(12), pp.1101-1107. https://doi.org/10.1089/jmf.2013.0006

2. Pesticide Action Network, 2019. PAN Pesticide Database. http://www.pesticideinfo.org/Detail_Chemical.jsp?Rec_Id=PRI5323

3. Bhaskar, E.M., Moorthy, S., Ganeshwala, G. and Abraham, G., 2010. Cardiac conduction disturbance due to prallethrin (pyrethroid) poisoning. *Journal of Medical Toxicology*, *6*(1), pp.27-30. https://doi.org/10.1007/s13181-010-0032-7

4. Na, H.G., Kim, Y.D., Choi, Y.S., Bae, C.H. and Song, S.Y., 2018. Allethrin and prallethrin stimulates MUC5AC expression through oxidative stress in human airway epithelial cells. *Biochemical and biophysical research communications*, *503*(1), pp.316-322. https://doi.org/10.1016/j.bbrc.2018.06.022

5. Alam, Z., Mohsin, A., Yunus, S.M., Ahmad, F. and Faruqi, N.A., 2017. EFFECT OF PRALLETHRIN VAPOURS ON CEREBELLAR CORTEX OF ALBINO RATS: A NEUROHISTOLOGICAL STUDY. *JOURNAL OF ANATOMICAL SCIENCES*, *25*(1), pp.8-11. http://www.asiup.in/journals/june-2017/JAS%20JOURNAL%202017.pdf#page=15

6. Mossa, A.T.H., Refaie, A.A., Ramadan, A. and Bouajila, J., 2013. Amelioration of prallethrin-induced oxidative stress and hepatotoxicity in rat by the administration of Origanum majorana essential oil. *BioMed research international,* 2013. doi: 10.1155/2013/859085

7. Botnariu, G., Birsan, C., Podoleanu, C., Moldovan, C., Stolnicu, S. and Chiriac, A., 2016. Skin necrosis caused by prallethrin—A worldwide used insecticide. *Environmental toxicology and pharmacology*, *43*, pp.103-104. https://doi.org/10.1016/j.etap.2016.03.002

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