Chemical Factsheet

Florasulam

General Information

- Product Names:
  Axial TBC Herbicide (Syngenta Crop Protection, LLC)
  BARTON® herbicide (Dow Agrosciences LLC)
  BENCHMARK® A herbicide (Dow Agrosciences LLC)
  BOXER® herbicide (Dow Agrosciences LLC)
  CONCLUDE® herbicide (Dow Agrosciences LLC)
  DERBY® herbicide (Dow Agrosciences LLC)
  Defendor® (Dow Agrosciences LLC)
  Ef-1343 (Dow Agrosciences LLC)
  Ef-1383 (Dow Agrosciences LLC)
  Ef-1440 Manufacturing Concentrate (Dow Agrosciences LLC)
  Firststep Herbicide Tank Mix (Dow Agrosciences LLC)
  Florasulam Wet Cake Technical (Dow Agrosciences LLC)
  FRONTLINE® herbicide (Dow Agrosciences LLC)
  Gf-1727 (Dow Agrosciences LLC)
  Gf-184 (Dow Agrosciences LLC)
  Goldsky Herbicide (Dow Agrosciences LLC)
  HIKER® herbicide (Dow Agrosciences LLC)
  HUNTER® herbicide (Dow Agrosciences LLC)
  KANTOR® herbicide (Dow Agrosciences LLC)
  MUSTANG® herbicide (Dow Agrosciences LLC)
  N-(2,6-difluorophenyl)-8-fluoro-5-methoxy(1,2,4)triazolo(1,5c)pyrimidine-2-sulfonamide (Dow Agrosciences LLC)
  Orion Herbicide (Syngenta Crop Protection, LLC)
  PRIMUS® herbicide (Dow Agrosciences LLC)
  Quelex (Dow Agrosciences LLC)
  SPECTRUM® A herbicide (Dow Agrosciences LLC)

  STARANE® XL herbicide (Dow Agrosciences LLC)

  Starane Flex (Dow Agrosciences LLC)

- Chemical Class: Triazolopyrimidine Sulfonanilide

- Uses: A post-emergent herbicide used on cereal grains (including non-underseeded winter wheat, spring barley, oats, rye, and triticale) to control broad-leaved weeds: chickweed, wild buckwheat, white clover, common danilion, broad-leaved plantaion, and cleavers in spring wheat (including durum).
- Alternatives: Organic agriculture, Organic Lawn care
- Beyond Pesticides rating: Toxic

Health and Environmental Effects

See citations at end of document.

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

Residential Uses as Found in the ManageSafe™ Database

- Chickweed
- Clover
- Dandelions
- Plantains

Additional Information

- Regulatory Status:
  - Florasulam; tolerances for residues. (09/28/2007; Amended 07/25/2018)
  - Pesticide Fact Sheet: Florasulam; Conditional Registration (09/2007)
- Supporting information:
  - Pesticide Database: Florasulam (Pesticide Action Network)
  - Pesticide Properties Database (PPDB): florasulam-Ref: DE 570 (International Union of Pure and Applied Chemistry)
- Studies:
  - Conclusion on the peer review of the pesticide risk assessment of the active substance florasulam. European Food Safety Authority, 2015. *EFSA Journal*, *13*(1), p.3984.
  - Emerging contaminants in groundwater. Stuart, M.E., Manamsa, K., Talbot, J.C. and Crane, E.J., 2011.
  - Pesticides in agricultural headwater streams in southwestern Germany and effects on macroinvertebrate populations. Weber, G., Christmann, N., Thiery, A.C., Martens, D. and Kubiniok, J., 2018. *Science of the Total Environment, 619,* pp.638-648.
  - Proximity to agricultural fields as proxy for environmental exposure to pesticides among children: The PIAMA birth cohort Bukalasa, J.S., Brunekreef, B., Brouwer, M., Vermeulen, R., de Jongste, J.C., van Rossem, L., Vonk, J.M., Wijga, A., Huss, A. and Gehring, U., 2017. *Science of the Total Environment*, *595*, pp.515-520.

- Spatial and temporal patterns of pesticide concentrations in streamflow, drainage and runoff in a small Swedish agricultural catchment. Sandin, M., Piikki, K., Jarvis, N., Larsbo, M., Bishop, K. and Kreuger, J., 2018. *Science of the Total Environment, 610,* pp.623-634.

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.

2. Ran, D., Wu, X., Zheng, J., Yang, J., Zhou, H., Zhang, M. and Tang, Y., 2007. Study on the interaction between florasulam and bovine serum albumin. *Journal of fluorescence,* 17(6), pp.721-726. https://doi.org/10.1007/s10895-007-0226-9

3. US EPA, Office of Prevention, Pesticides and Toxic Substances, Science Data Evaluation. https://iaspub.epa.gov/apex/pesticides/florasulam

4. The International Union of Pure and Applied Chemistry (IUPAC), Pesticide Properties Database (PPDB), florasulam (Ref: DE 570). https://sitem.herts.ac.uk/aeru/iupac/Reports/322.htm

5. The Dow Chemical Company, Product Safety Assessment, Florasulam. http://msdssearch.dow.com/PublishedLiteratureDOWCOM/dh_07cf/0901b803807cfdd2.pdf?filepath=productsafety/pdfs/noreg/233-00436.pdf&fromPage=GetDoc

6. Hernández-Borges, J., García-Montelongo, F.J., Cifuentes, A. and Rodríguez-Delgado, M.Á., 2005. Determination of herbicides in mineral and stagnant waters at ng/L levels using capillary electrophoresis and UV detection combined with solid-phase extraction and sample stacking. *Journal of Chromatography A, 1070(1-2),* pp.171-177. https://doi.org/10.1016/j.chroma.2005.02.053

7. Pesticide Action Network Pesticide Database. http://www.pesticideinfo.org/Search_Chemicals.jsp.

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