

# Chemical Factsheet

## Diquat Dibromide

### General Information

- Product Names:
  - Spectracide Triple Strike Grass & Weed Killer** (Spectrum Brands), formulated with DMA salt of [Dicamba](#), Fluazifop-p-butyl
  - Spectracide Total Vegetation Killer Concentrate 2** (Spectrum Brands), formulated with Prometon
  - Spectracide Triple Strike Grass & Weed Killer Ready-to-Use Spray** (Spectrum Brands), formulated with DMA salt of [Dicamba](#), Fluazifop-p-butyl
  - Real Kill Liquid Edger** (Realex)
  - Spectracide Systemic Grass & Weed Killer** (Spectrum Brands), formulated with Fluazifop-p-butyl
- Chemical Class: Bipyridylium herbicide and dessicant
- Uses: Agriculture drainage areas, irrigation systems, carrot (including tops), cucumber, melons, pepper, radish, squash, turnip, potato (white/irish), sorghum, soybeans (unspecified), tomato; lakes/ ponds/ reservoirs, intermittently flooded areas, streams/rivers/channeled water, residential ornamental ponds and aquaria, lawns, and storage areas; targets algae, bladderwort, crabgrass, elodea, jimsonweed, leafy spurge, naiad, poison ivy, salvinia, shepherdspurge, and waterlettuce.
- 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: Not documented
- Reproductive Effects: Yes (1)
- Neurotoxicity: Not documented
- Kidney/Liver Damage: Yes (2)
- Sensitizer/ Irritant: Yes (3)
- Birth/Developmental: Not documented
- Detected in Groundwater: Not documented
- Potential Leacher: Not documented
- Toxic to Birds: Yes (2)
- Toxic to Fish/Aquatic Organisms: Yes (3)
- Toxic to Bees: Not documented

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

- [Dandelions](#)
- [Annual Bluegrass](#)

## Additional Information

- Regulatory Status:
  - [EPA Tolerance Reassessment Progress and Risk Management Decision \(TRED\) signed](#) (4/2002)
  - [BP Comments February 2026](#)
- Supporting information:
  - [Daily News Blog entries](#) (Beyond Pesticides)
  - [Exttoxnet Diquat Dibromide Factsheet](#) (Extension Toxicology Network)
  - [PAN Pesticides Database: Diquat Dibromide](#) (Pesticide Action Network)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
  - [A pesticide and iPSC dopaminergic neuron screen identifies and classifies Parkinson-relevant pesticides](#). Paul, K.C., Krolewski, R.C., Lucumi Moreno, E., Blank, J., Holton, K.M., Ahfeldt, T., Furlong, M., Yu, Y., Cockburn, M., Thompson, L.K. and Kreymerman, A., 2023. *Nature Communications*, 14(1), p.2803.
  - [Pesticide-Induced Inflammation at a Glance](#). Lopes-Ferreira, M. et al. (2023) 'Pesticide-induced inflammation at a glance', *Toxics*, 11(11), p. 896. doi:10.3390/toxics11110896.
  - [Imaging Findings and Toxicological Mechanisms of Nervous System Injury Caused by Diquat](#). Ren, Y., Guo, F. & Wang, L. *Imaging Findings and Toxicological Mechanisms of Nervous System Injury Caused by Diquat*. *Mol Neurobiol* 61, 9272-9283 (2024). <https://doi.org/10.1007/s12035-024-04172-x>
  - [Effect of Diquat on gut health: molecular mechanisms, toxic effects, and protective strategies](#). He C, Cai G, Jia Y, Jiang R, Wei X and Tao N (2025) Effect of Diquat on gut health: molecular mechanisms, toxic effects, and protective strategies. *Front. Pharmacol.* 16:1562182. doi: 10.3389/fphar.2025.1562182
  - [Single-cell analysis of diquat-induced oxidative stress and its impact on organ-specific toxicity](#). Chen, Z., Lin, G., Ye, K., Wang, J., Tang, M., Lai, K., Yuan, Y., Lin, S., Dai, X., Chen, H., Ma, H., Zhou, J., & Xu, Y. (2025). Single-cell analysis of diquat-induced oxidative stress and its impact on organ-specific toxicity. *Ecotoxicology and environmental safety*, 297, 118246. <https://doi.org/10.1016/j.ecoenv.2025.118246>
  - [Diquat Induces Cell Death and dopamine Neuron Loss via Reactive Oxygen Species Generation in \*Caenorhabditis elegans\*](#). Wang, B., Yin, Z., Liu, J., Tang, C., Zhang, Y., Wang, L., Li, H., & Luo, Y. (2025). Diquat Induces Cell Death and dopamine Neuron Loss via Reactive Oxygen Species Generation in *Caenorhabditis elegans*. *Environmental science & technology*, 59(1), 152-162. <https://doi.org/10.1021/acs.est.4c07783>
  - [Diquat exacerbates oxidative stress and neuroinflammation by blocking the autophagic flux of microglia in the hippocampus](#). Wang, Ping & Song, Cong-Ying & Lu, Xuan & Zhou, Jia-Ning & Lin, Li-Ying & Li, Ting & Zhang, Qin & Lu, Yuan-Qiang. (2024). Diquat exacerbates oxidative stress and neuroinflammation by blocking the autophagic flux of microglia in the hippocampus. *Ecotoxicology and environmental safety*. 286. 117188. 10.1016/j.ecoenv.2024.117188.

## Gateway Health and Environmental Effects Citations

1. New Jersey Department of Health and Senior Services, Right to Know Hazardous Substances Fact Sheets. Available online at <http://web.doh.state.nj.us/rtkhsfs/indexfs.aspx>
2. Extension Toxicology Network (EXTOXNET) Pesticide Information Profiles. <http://extoxnet.orst.edu/pips/ghindex.html>
3. 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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