

Disulfoton (DiSyston) Toxicity

by Kathy Stollenwerk

Background

Disulfoton (Trade-name DiSyston) is a broad-spectrum organophosphate pesticide used in a wide variety of pesticide products including those used in rose culture. It is a systemic insecticide and is absorbed rapidly into plant tissues, conferring toxicity to many or all plant parts. The EPA states that disulfoton poses high acute and chronic risks to birds and mammals as well as aquatic organisms. The EPA also notes that bird kills have been linked to the use of disulfoton. Disulfoton degrades into compounds in the environment that are just as toxic as the parent compound. Disulfoton and breakdown products are persistent in the soil and may pose hazards to birds and other small animals for an entire growing season or longer.

How Disulfoton Use Affects You

Disulfoton is highly toxic to all mammals and birds by all routes of exposure, i.e., breathing, drinking, eating, and skin contact. Obviously, breathing its dust or getting it on your skin while using the product on your roses is not a good idea. The risk is much higher for smaller mammals such as little children or pets or birds. A cat could lick the granules off its paw and die. Besides ingesting granules during foraging, birds can also ingest insects and earthworms from disulfoton treated gardens and die. Standing water in treated areas can be fatal to birds drinking or bathing.

Product Availability

The list of products that contain disulfoton has shrunk dramatically in the past few years. As of mid-2010, the last two products available to the public at garden centers and big box stores are **Bayer Advanced Flower, Rose & Shrub Care**, and **Bayer Systemic 2-in-1 Rose Care**. Bayer has voluntarily cancelled the Active Product Registration Status with the EPA for these products; therefore, once existing stocks are sold, all products containing disulfoton available to the public should be gone. However, in recent years there were many products with active registrations. A few stores may still have some discontinued stock of other brands that have not sold out yet (examples: Bonide, Ortho, Ferti-lome, Lilly Miller, Green Light and Cenex all had one or more products that contained disulfoton). Please read all ingredient labels before purchasing.

The Bottom Line

- ◆ Do not purchase products that contain disulfoton.
- ◆ If you have any products in your home that contain disulfoton, dispose of them.
- ◆ Limit or even better, eliminate entirely your use of systemic pesticides.
- ◆ Adopt an Integrated Pest Management approach to your rose gardening. Your county extension office can provide details.
- ◆ Always read labels and follow label instructions when using any pesticide.
- ◆ Wear appropriate protective clothing, gloves, eyewear, and mask whenever using pesticides.
- ◆ Keep children and pets out of the area entirely.

Sources

Agency for Toxic Substances and Disease Registry, ToxFAQs for Disulfoton,
<http://www.atsdr.cdc.gov/tfacts65.html>

U.S. Environmental Protection Agency, <http://www.epa.gov/pesticides/op/disulfoton>

U.S. Environmental Protection Agency, cancellation of active product registrations,
<http://www.epa.gov/EPA-PEST/2009/September/Day-23/P22921.htm>

Info on Pesticides, <http://www.pesticideinfo.org>

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