DCNA (Dicloran) Reregistration Eligibility Decision (RED) Fact Sheet

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All pesticides sold or distributed in the United States must be registered by EPA, based on scientific studies showing that they can be used without posing unreasonable risks to people or the environment. Because of advances in scientific knowledge, the law requires that pesticides first registered before November 1, 1984, be reregistered to ensure that they meet today's more stringent standards.

In evaluating pesticides for reregistration, EPA obtains and reviews a complete set of studies from pesticide producers that describe the human health and environmental effects of each pesticide. To implement provisions of the Food Quality Protection Act (FQPA) of 1996, EPA considers the special sensitivity of infants and children to pesticides, as well as aggregate exposure of the public to pesticide residues from all sources, and the cumulative effects of pesticides and other compounds with common mechanisms of toxicity. The Agency develops any mitigation measures or regulatory controls needed to effectively reduce each pesticide's risks. EPA then reregisters pesticides that meet current human health and safety standards and can be used without posing unreasonable risks to human health and the environment.

When a pesticide is eligible for reregistration, EPA explains the basis for its decision in a Reregistration Eligibility Decision (RED) document. This fact sheet summarizes the information in the RED document for the pesticide DCNA (Dicloran), case number 0113.

Uses

DCNA is a pre- and post-harvest fungicide formulated as a dust, wettable powder and liquid.
DCNA is registered for pre-harvest use on apricots, snap beans, carrots, celery, cherries, cucumber, endive, fennel, garlic, grapes, lettuce, nectarines, onions, peaches, plums, potatoes, prunes, rhubarb, shallots, sweet potatoes and tomatoes. DCNA is registered for post-harvest use on apricots, carrots, nectarines, peaches, plums, sweet cherries, and sweet potatoes. It is also registered for use on conifers, Christmas trees, and various ornamentals.
The major pre-harvest crop uses include celery and lettuce; the major post-harvest use is on sweet potatoes.
Application rates range up to 4.5 pounds active ingredient per acre (lb ai/acre), with the highest single application rate being permitted on potatoes.
The maximum annual application rate is 4.0 lb ai/acre/year for all crops except for potatoes (for which a maximum annual application rate of 7.5 lb ai/acre/year is allowed) and celery and fennel (for which a maximum annual application rate of 5.0 lb ai/acre/year is allowed).
DCNA is a general use pesticide with no residential uses.
Over 200,000 pounds of DCNA is used annually.

Health Effects

DCNA has low acute toxicity, but is a potential skin sensitizer.
The target organs for DCNA include the kidney, liver, spleen and hematopoietic system, particularly red blood cells.
No reproductive effects were observed in studies with DCNA.
DCNA appears to elicit neuropathology (vacuolation in the brain).
DCNA is classified as "Suggestive Evidence of Carcinogenic Potential," but EPA concluded that no quantification of cancer risk is required.

Ecological Effects

DCNA has low volatility and is expected to be persistent and have low mobility in soil, although mobility will be increased in coarser soils.
DCNA is classified as practically non-toxic to mammals on an acute oral basis. However, developmental effects and maternal toxicity were noted in a two-generation reproduction study.
DCNA is classified as slightly toxic to bobwhite quail and practically non-toxic to mallard ducks in acute avian toxicity tests.
DCNA is highly toxic to freshwater fish and moderately toxic to freshwater invertebrates on an acute basis.

Risks

Acute and chronic dietary risks from exposure to DCNA through food and drinking water are below the Agency's level of concern (i.e., less than 100 percent of the population adjusted dose (PAD)). At the 99.9th percentile of exposure, the estimated food and drinking water exposure for females 13 to 49 years old accounted for 52% of the acute PAD. For chronic exposures, the most highly exposed subgroup was children 1-2 years old, with exposures accounting for 15% of the chronic PAD.
Risks to occupational handlers are below the Agency's level of concern with some level of personal protective equipment (PPE) and/or engineering controls for all handler exposure scenarios except for aerial application of dust products, and aerial and chemigation methods of application for wettable powder products not packaged in water soluble bags.
Risks to workers entering fields recently treated with DCNA to perform tasks such as scouting and irrigation are below EPA's level of concern with a 12-hour Restricted Entry Interval (REI) for all crops except for grapes (assuming the new lower application rates for apricots, grapes, peaches, nectarines, plums, prunes, snap beans, sweet cherries, conifers, and Christmas trees, as discussed below).
EPA's screening level ecological risk assessment shows some exceedances of the acute and chronic levels of concern for birds and the chronic level of concern for mammals.
No acute or chronic risks are predicted for fish, aquatic invertebrates, or aquatic plants.

Risk Mitigation

The following risk mitigation measures are required for DCNA to address risks of concern.

Occupational Handler Risk Mitigation

Aerial application of dust formulation is prohibited.
Aerial and chemigation methods of application are prohibited for wettable powder products not packaged in water soluble bags.
PF-10 respirators are required for mixers and loaders using dust and wettable powder (non-water soluble bag) formulations.
Closed cabs that provide both dermal and inhalation protection are required for application of dust using ground equipment.

Occupational Post-Application Risk Mitigation

The maximum application rates were reduced for the following crops: apricots, grapes, peaches, nectarines, plums, prunes, snap beans, sweet cherries, conifers, and Christmas trees, as shown in the table below.

Crops	Previous Max. Rate (lb ai/acre)	New Max. Rate (lb ai/acre)
Grapes	3.5	1.5
Apricots, peaches, nectarines, plums, prunes, sweet cherries	4	1.5
Snap Beans	3	2
Conifers, Christmas Trees	2	1.5

For grapes, in addition to reducing the maximum application rate, the REI was extended to 14 days. Furthermore, all DCNA products labeled for use on grapes must prohibit cane turning and girdling for 30 days following the application of DCNA.

Regulatory Conclusion

EPA has determined that all supported uses of DCNA are eligible for reregistration, provided that registrants implement risk mitigation measures described in the RED and make required 4 changes to product labeling and provided that additional data identified in Chapter V of the RED confirm this decision.

For More Information

Electronic copies of the DCNA RED and all supporting documents are available in Docket #EPA-HQ-OPP-2005-0265 at http://www.regulations.gov.

For more information about EPA's pesticide reregistration program, the DCNA RED, or reregistration of individual products containing DCNA, please contact the Special Review and Reregistration Division (7508P), Office of Pesticide Programs, US EPA, Washington, DC 20460, telephone 703-308-8000.

For information about the health effects of pesticides, or for assistance in recognizing and managing pesticide poisoning symptoms, please contact the National Pesticide Information Center (NPIC). Call toll-free 1-800-858-7378, from 6:30 am to 4:30 am Pacific Time, or 9:30 am to 7:30 pm Eastern Standard Time, seven days a week. The NPIC internet address is http://npic.orst.edu EXIT Disclaimer.