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## Chemigation Safety Devices: Pesticide Label Requirements and Allowable Alternative Equipment

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**Distribution** County Agricultural Commissioners

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**Referrals** If you have any questions pertaining to this document, please contact your Senior Pesticide Use Specialist liaison.

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**Approval** *Original signed by. . .*  
  
Scott Paulsen, Chief  
Pesticide Enforcement Branch  
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**Background** This letter states the Department of Pesticide Regulation's (DPR's) policy pertaining to the use of chemigation safety devices required by registered pesticide labeling and the use of comparable, alternative equipment.

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**Policy** It is a violation of the Food and Agricultural Code (FAC) section 12973 to use a registered pesticide in a manner inconsistent with its labeling. Handlers must comply with the specific chemigation equipment requirements shown on the registered labels of the pesticides they use.

DPR will consider handlers in compliance with FAC section 12973 when they use the chemigation equipment specified on the product label or when they use alternative chemigation equipment according to the specifications and requirements stated in this policy

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## Chemigation Safety Devices: Pesticide Label Requirements and Allowable Alternative Equipment, continued

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### Adoption of the U.S. EPA Chemigation Compliance Policy

DPR adopts the U.S. Environmental Protection Agency (U.S. EPA) Interim Final Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) Compliance Program Policy No. 12.7, Enforcement of the Label Improvement Program for Pesticides Applied Through Irrigation Systems (Chemigation), issued in 1989. FIFRA section 2 (ee) (6)<sup>1</sup> allows the Administrator of the U.S. EPA to establish policies concerning the enforcement of pesticide label requirements provided those policies remain consistent with the purposes of federal law. FIFRA does not grant States the same authority. Therefore, DPR will implement the following policy until it is amended or rescinded by the Administrator of the U.S. EPA.

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### Alternative Chemigation Safety Devices

U.S. EPA Pesticide Registration (PR) Notice 87-1<sup>2, 3</sup>, the Label Improvement Program for Chemigation, requires pesticide registrants to include certain types of safety devices on the labels of agricultural pesticides intended for application through irrigation systems to protect ground water from pesticide contamination (attached). As a result of information received following implementation of PR Notice 87-1 in 1988, the U.S. EPA approved a list of chemigation equipment that could be used as an alternative to some equipment required by pesticide product labeling. In some cases, the alternative equipment was less expensive, more reliable, or more available than some of the equipment included on the label. Any chemigation equipment that is required on pesticide product labeling but has no listed alternative(s) is still required as a component of the chemigation system. All of the equipment included in PR Notice 87-1 is still acceptable and the PR Notice is, in its entirety, still in effect. The original equipment required in PR Notice 87-1 and its corresponding alternative(s) are listed below:

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<sup>1</sup> FIFRA section 2 (ee) (6): The term “to use any registered pesticide in a manner inconsistent with its labeling” means to use any registered pesticide in a manner not permitted by the labeling, except that the term shall not include any use of a pesticide in a manner that the Administrator determines to be consistent with the purposes of FIFRA.

<sup>2</sup> US EPA Pesticide Registration Notices provide instructions to pesticide registrants concerning registration issues, including required label language. PR Notice 87-1 was issued on March 11, 1987. Excerpts are attached and the full text is available at: [http://www.epa.gov:80/PR\\_Notices/](http://www.epa.gov:80/PR_Notices/).

<sup>3</sup> Some pesticide labels registered by the U.S. EPA, and subsequently by DPR, may deviate from the requirements of PR Notice 87-1. For example, some pesticide labels require the use of an “Alternative Device” found in U.S. EPA’s Compliance Program Policy No. 12.7 rather than the original device found in the PR Notice. While slight deviations from PR Notice 87-1 do occur, CACs should discuss significant label deviations found during field activities with their Senior Pesticide Use Specialist.

# Chemigation Safety Devices: Pesticide Label Requirements and Allowable Alternative Equipment continued

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Alternative  
Chemigation  
Safety Devices,  
continued

**Original Device:**

Functional normally closed, solenoid-operated valve located on the intake side of the injection pump.

**Alternative Device 1**

Functional spring-loaded check valve with a minimum of 10 pounds per square inch (psi) cracking pressure. The valve must prevent irrigation water under pressure from entering the pesticide injection line and must prevent leakage from the pesticide supply tank on system shutdown. This valve must be constructed of pesticidally resistant materials. [Note: this single device can substitute for both the solenoid-operated valve and the functional, automatic, quick closing check valve in the pesticide injection line.]

**Alternative Device 2**

Functional normally closed, hydraulically operated check valve. The control line must be connected to the main water line such that the valve opens only when the main water line is adequately pressurized. This valve must prevent leakage from the pesticide supply tank on system shutdown. The valve must be constructed of pesticidally resistant materials.

**Alternative Device 3**

Functional vacuum relief valve located in the pesticide injection line between the positive displacement pesticide injection pump and the check valve. This alternative is appropriate for only those chemigation systems using a positive displacement pesticide injection pump and is not for use with venturi injection systems. This valve must be elevated at least 12 inches above the highest fluid level in the pesticide supply tank and must be the highest point in the injection line. The valve must open at 6 inches water vacuum or less and must be spring loaded or otherwise constructed such that it does not leak on closing. It must prevent leakage from the pesticide supply tank on system shutdown. The valve must be constructed of pesticidally resistant materials.

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# Chemigation Safety Devices: Pesticide Label Requirements and Allowable Alternative Equipment continued

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Alternative  
Chemigation  
Safety Devices,  
continued

**Original Device:**

Functional main water line check valve and main water line low pressure drain.

**Alternative Device:**

Gooseneck pipe loop located in the main water line immediately downstream of the irrigation water pump. The bottom side of the pipe at the loop apex must be at least 24 inches above the sprinkler or other type of water emitting device. The loop must contain either a vacuum relief or combination air and vacuum relief valve at the apex of the pipe loop. The pesticide injection port must be located downstream of the apex of the pipe loop and at least 6 inches below the bottom side of the pipe at the loop apex.

**Original Device:**

Positive displacement pesticide injection pump.

**Alternative Device**

Venturi systems including those inserted directly into the main water line, those installed in bypass systems, and those bypass systems boosted with an auxiliary water pump. Booster or auxiliary water pumps must be connected with the system interlock such that they are automatically shut off when the main line irrigation pump stops or in cases where there is no main line irrigation pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. Venturi systems must be constructed of pesticidally resistant materials. The line from the pesticide supply tank to the venturi must contain a functional, automatic, quick closing check valve to prevent the flow of the liquid back toward the pesticide supply tank. This valve must be located immediately adjacent to the venturi pesticide inlet. This same supply line must also contain either a functional normally closed solenoid-operated valve connected to the system interlock or a functional normally closed hydraulically operated valve which opens when the main water line is adequately pressurized. In bypass systems, as an option to placing both valves in the line from the pesticide supply tank, the check valve may be installed in the bypass immediately upstream of the venturi water inlet and either the normally closed solenoid or hydraulically operated valve may be installed immediately downstream of the venturi water outlet.

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# Chemigation Safety Devices: Pesticide Label Requirements and Allowable Alternative Equipment continued

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**Alternative Chemigation Safety Devices, continued**

**Original Device:**  
Vacuum relief valve.

**Alternative Device**  
Combination air and vacuum relief valve.

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**Backflow Prevention Devices In Chemigation Systems**

Per federal law, pesticide labels require the use of backflow prevention equipment when applying pesticides through chemigation systems. Pesticide handlers who use the backflow prevention equipment required on the pesticide product labeling, or the allowable alternative equipment specified in this policy, will be considered in compliance with the requirements of 3CCR section 6610, Backflow Equipment. (Reference: Enforcement Letter 2001-12, Backflow Prevention Regulatory Requirements and Policy.)

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**Generic Chemigation System Diagrams and Equipment Descriptions**

Due to the complexity of chemigation system designs, this policy letter includes a generic chemigation system diagram that shows proper chemigation equipment placement, whether an original device or an allowable alternative. A copy of the American Society of Agricultural Engineers (ASAE) standard titled “Safety Devices for Chemigation” (ASAE EP409.1 DEC 97. Copyright © ASEA. All Rights Reserved.) is also provided as an additional resource. The device descriptions included in ASEA EP 409.1 are advisory only.

**Please note:** DPR purchased a membership to ASAE to distribute this copyrighted standard to the CACs for the sole purpose of pesticide use enforcement. DPR requests that CACs respect ASAE’s copyright and obtain permission from ASAE prior to distributing copies of this standard to persons not employed by a CAC.

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**Attachments**

- Excerpts from U.S. EPA Pesticide Registration Notice 87-1, “Label Improvement Program for Pesticides Applied Through Irrigation Systems (Chemigation)”. [http://www.epa.gov:80/PR\\_Notices/](http://www.epa.gov:80/PR_Notices/)
  - Generic Chemigation System Diagram
  - Safety Devices for Chemigation, ASAE EP409.1 DEC97, American Society of Agricultural Engineers.
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cc: Mr. Daniel J. Merkley, Agricultural Commissioner