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**Chemigation and Fertigation Technical Assistance Program**

## WELCOME TO ANOTHER ISSUE OF AG-ASSIST

### Soil Fumigation and Injection Line Check Valves

With the quickly approaching soil fumigation season, fieldmen and growers alike are contemplating the task of readying irrigation systems and injection equipment, which will hopefully include an assessment of chemigation line injection valves. Although many types of injection valves exist, the design principles and operating mechanism are similar. However, differences in materials of construction and off-the-shelf components render some check valves unsuitable for chemigation. With the retrofitting of components, some of these check valves can be made suitable for chemigation. The DFT Basic Check valve (commonly known as the Durabla valve) is an example.



**DFT Basic Check valve, also known as a Durabla valve.**

The purpose of the injection line check valve is to prevent product siphoning from the application tank with irrigation system shut down or drainage from the application tank in event that the hydraulic head exerted by the product is sufficient to overcome the spring's cracking – that is, opening – pressure. For this reason, as a suggested course of action, a spring's rating should be increased by one (1) psi per one (1) foot of elevation between the application tank and the point of chemical injection. To illustrate, with a fluid weighing 10.1 pounds per gallon (e.g., metam sodium), an elevation difference from the fluid level in the tank to the injection point of 19 to 20 feet is sufficient to compromise a 10-psi spring.



Durabla valve with a standard .24-psi spring. The valve did not seat properly, as displayed by the stream of water.

Because of its high flow volume, Durabla check valves are often used to inject metam sodium products. However, an off-the-shelf check valve is fitted with a .24-psi cracking pressure spring. USEPA as well as the Washington State Chemigation Rule ([WAC 16-202-1014\[1\]](#)) and the Fertigation Rule require a minimum of a 10-psi spring. Consequently, the use of a stock Durabla check valve during a chemigation application is a violation of FIFRA and of several state rules. Thus, the standard spring must be replaced with a spring of 10 psi or higher opening pressure. Replacement springs should be available from the equipment supplier.

### What Constitutes a Pesticide Spill and when must a Spill be Reported?

Transporting pesticides on public roadways demands diligence and should incite precautionary measures, the absence of either can set in motion a disastrous set of events. Although common sense would dictate that pesticide containers be secured prior to transit, it is also the law. [WAC 16-228-1200\(1\)](#) reads, in part, that “No person shall handle, transport . . . or distribute pesticides in such a manner as to endanger humans and their environment. . . .” Similarly, [WAC 16-228-1220\(2\)](#) requires that “No person shall transport . . . or dispose of any pesticide, pesticide container or apparatus in such a manner as to pollute water suppliers or waterways, or cause damage or injury to land, humans, desirable plants and animals, or wildlife.” To that end, Section 1200, Paragraph 3, lists various methods to secure a load: “Pesticide containers shall be secured during transit by use of side or end racks, bracing, chocks, tiedowns, or other means to prevent their sliding, falling, tipping, rolling. . . .” Even with appropriate safeguards, spills can still happen. And when they do, are employees aptly trained with emergence response procedures to safely and skillfully manage the spill event?

Whether a commercial agrichemical outlet or a farm operation, an up-to-date emergency response plan should be in-place, and employees should be familiar with its provisions. While embroiled in the frenzied dealings of a spill event is not the time to develop a response plan. To ensure a decisive response to a spill event, employees need to be knowledgeable about emergency response procedures and familiar with emergency personnel contacts.

Under state law, the Washington State Department of Ecology (Ecology) must be notified when a regulated waste or hazardous material that poses an imminent threat to life, health or the environment is released to the air, land, or water – regardless of the quantity ([WAC 173-303-145](#)). Furthermore, Subsection 2: Notification requires that any person who is responsible for the spill (referred to as the “responsible party”) to immediately notify Ecology.

Note: Do not confuse the “reportable quantity” reported in a product’s MSDS sheet as a guide in deciding whether Ecology should or should not be contacted. The MSDS reportable quantity is in reference to the transportation of hazardous materials, as prescribed by the U.S. Department of Transportation in Title 49 CFR – specifically, Appendix A to Subsection 172.101: List of Hazardous Substances and Reportable Quantities. It has nothing to do with the reporting requirement to Ecology concerning the release of a dangerous waste or hazardous substance into the environment.

What comprises a dangerous waste or hazardous substance along with the quantity and what constitutes imminent threat to life, health, or the environment are assessments that are made by an Ecology representative, not by the reporting party. For spills or discharges onto the ground or into ground water or surface water, local authorities may need to be contacted as well.

Information on who to contact, the type of information to be provide, and what to expect from Ecology’s spill team is described in the following publication, available as an Adobe Acrobat document from Ecology’s website: [Emergency Spill Response in Washington State \(Publication #97-1165-CP\)](#).

Ecology regional spill reporting numbers for eastern Washington:

**Central Regional Office: (509) 575-2490**

Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, and Yakima Counties

**Eastern Regional Office: (509) 456-2926**

Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman Counties.



**Accidental spills can happen, unexpectedly and suddenly. Be prepared in the event that they do!**

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