



Best Management Practices for Agricultural Chemicals



A Guide for pesticide and fertilizer storage and operation area facilities

This publication is prepared in a joint effort by the Washington State Departments of Agriculture and Ecology to assist those who store agricultural chemicals (pesticides and fertilizers), to be in compliance with requirements of the related rules. Rules relating to secondary and operational area containment for bulk pesticides, Chapter 16-229 WAC and fertilizer bulk storage and operational area containment, Chapter 16-201 WAC are administered by the Washington State Department of Agriculture (WSDA). Rules pertaining to soil, ground and surface water protection are administered primarily by the Washington State Department of Ecology (Ecology).

The primary purpose of a secondary containment facility is to contain pesticide and fertilizer products, rinsates and washwater in case of accidents causing release of the material. Their intent is to prevent pesticides and fertilizers from being released into the environment. A secondary containment facility reduces the chances of site contamination and the liability and expense of hazardous waste cleanup. The Environmental Protection Agency estimates the average cleanup cost at several million dollars per site. This estimate does not take into account legal fees and health effects to you, your workers and neighbors. Effective use of secondary containment can also reduce the possibility for rinsates and washwater becoming regulated hazardous wastes with their associated high costs of disposal. Rinsates, washwater and spills that are properly managed in a containment facility can often be used beneficially rather than disposed as waste. The costs of having regulated hazardous wastes go beyond those of disposal, but also include storage and record keeping. The disposal of one 55-gallon drum of pesticide-contaminated wastewater currently costs between \$250 and \$750.

Best Management Practices

Best Management Practices (BMPs) can help control and decrease negative impacts on the environment. BMPs include both management and operation of the facility to prevent or reduce pollution. Managerial procedures involve schedules for required maintenance procedures, training of employees and other facility operational activities that can help control the negative effects on the environment. Structural procedures include physical layout and construction of the work site plus the selection of products and materials. Your experience with the site will help determine which potential pollution problems may exist and which BMPs are needed to mitigate the risk. Do not limit yourself to the suggested BMPs, but find local solutions by talking to others in similar situations. Following is a list of potential pollution sources and problems related to secondary containment facilities.

☐ Stormwater Run-on

Preventing stormwater from entering contaminated storage and work areas minimizes further contamination. Contaminated stormwater will ultimately require treatment or other approved method of disposal.

Best management practices to minimize run-on:

- Uncontaminated stormwater should be kept away from the work area using berms, pipes, dikes, culverts or other similar construction barriers.
- The work area should be covered with a roof with gutters to prevent precipitation from becoming contaminated by agricultural chemicals on the work surface when possible. This is especially critical in high rainfall areas in western Washington where a normal precipitation rate of 48 inches per year will produce 300,000 gallons of water over an area of 100 by 100 feet.

☐ Runoff of Wastewaters

Eliminate or reduce the generation of contaminated water by controlling spills. Any contaminated water must be prevented from moving off site to minimize the amount of environmental impact. Work area wastewaters should not be released into dry wells, infiltration basins, or any outlet.

Best management practices to minimize run-off*

- All stormwater that falls on the work area should be contained for proper disposal. If the work area is cleaned using the decontamination procedures described below, then stormwater can be disposed as clean stormwater as outlined in the '**Disposal of Uncontaminated Stormwater**' section below.
- The work area should be lined with an impermeable material such as concrete. The area should be constructed to contain and aid in the recovery of any spilled materials. This includes a curbed area that slopes to a collection point where accumulated liquids can be removed by a manually activated pump. *More details and an explanation of these requirements can be found in Ecology's guidance: "*Spill Reporting and Cleanup in Washington State*" publication #94-187.

☐ Disposal of Uncontaminated Stormwater

- If you are uncertain whether stormwater is contaminated or uncontaminated, either use the conservative assumption that the water is contaminated, or have a laboratory analyze the water.
- Uncontaminated stormwater should be released in ways to avoid erosion or flooding. Contact your nearest Ecology regional office to request a copy of the *2005 Stormwater Management Manual for Western Washington*.
- Uncontaminated stormwater may be discharged to a lined evaporation pond.

☐ Segregation of Materials

- Avoid mixing rinsates/washwater, which have incompatible uses. Segregate and store materials according to intended end uses. Do not mix materials that have labels indicating they cannot be applied legally to the same site. The use must be consistent with the label for each chemical in a mixture.
- Reduce cleaning needs by dedicating equipment to compatible spray activities.
- Catch basin liquids can be reused as makeup water for the next spray solution of a compatible pesticide or fertilizer. Incorporate enough storage tanks into the design of the secondary containment area to properly segregate materials by legal use. Label containers with the name of the pesticide and the date of storage.
- Mix only enough for immediate use to avoid leftover material.
- Sequence applications to reduce changeover from one spray type to another.
- All liquid materials that accumulate during the agrichemical application season should be contained, temporarily stored and reused during the same application season.

Note:
Mixing of materials with incompatible uses can turn usable products into hazardous waste.

Proper equipment and container cleaning procedures will eliminate cross product contaminations and reduce the amount of contaminated washwater created.

Cleaning procedures for equipment and containment areas: (the entire sequence should be followed)

- Thoroughly clean the containment area between the uses of different chemicals to reduce the chances of cross-contamination. The more washwater that can be reused, the less waste volume there will be to handle and dispose.
- Clean equipment exteriors at a mixing loading/cleaning station in the containment area, unless this can be done in the field at the application site.
- The containment area and equipment should be triple rinsed with a high pressure, low volume washer. This helps reduce quantities of washwater to contend with later.
- If possible, use the washwater as makeup water for later applications and apply to a suitable target area.
- If the washwater or stormwater is too dirty to utilize as makeup for later tank-mixes, consider installing filters and an oil-water separator. The filtered washwater can also be reused as washwater, otherwise it will have to be disposed of as contaminated wastewater.

☐ Contaminated Wastewater Disposal

The disposal of contaminated wastewater is subject to complicated legal requirements. The best option is avoid creating contaminated wastewater, but if this is unavoidable it can be disposed of as hazardous waste and in special cases transported to your local wastewater treatment facility.

Disposal of wastewaters

- Wastewaters cannot be discharged to infiltrate soil or released into any watercourse, storm sewer, field tile drain, infiltration basins, dry wells or sanitary sewer.
- Contaminated liquids can be contained in a holding tank and may be discharged to a wastewater treatment facility with a discharge permit or authorization letter from Ecology or your local treatment facility. The waste must be treatable and not prohibited, be described specifically, and be named in the permit as authorized for discharge. Disposal as wastewater should be considered only as a last resort.
- If the wastewater is contaminated as a regulated hazardous waste, it must be disposed of at a permitted hazardous waste treatment, storage or disposal facility.
- Ecology's regional offices can help you determine if your wastewater is regulated and which disposal options may be most appropriate.

Educate Employees

Employees need to know why and how they can keep pollutants from your facility and work sites out of the environment. Many of the above BMPs are operational and need to be followed on a continuing basis.

Educational opportunities

- Attend related classes. Washington State University Cooperative Extension (WSU) conducts pesticide training each year, industry trade groups also offer classes. Contact your local representatives for current training dates.
- Conduct environmental protection and waste reduction classes on an annual basis for all employees. Include environmental protection and waste reduction training in all new employee orientations and in procedure manuals.
- Request Ecology or WSDA staff to speak at your local trade or association meetings.
- Work with and discuss your environmental protection procedures and waste reduction strategies with your peer businesses. Working together, industry can develop effective BMPs more quickly than business or government working alone.

If you have questions or need more information:

If you are uncertain about disposal options for stormwater or uncontaminated wastewaters, call your nearest Ecology Regional Office and ask for a Water Quality Program specialist. For questions about your responsibilities as a hazardous waste generator, ask for a hazardous waste specialist. If you need more information on reducing or recycling hazardous waste, ask for a toxic reduction specialist.

Fact Sheet No. 9501 on bulk pesticide and fertilizer storage facility containment rules and the associated flow charts should help you to determine if the WSDA rules apply to you or your facility. Request a copy from WSDA.

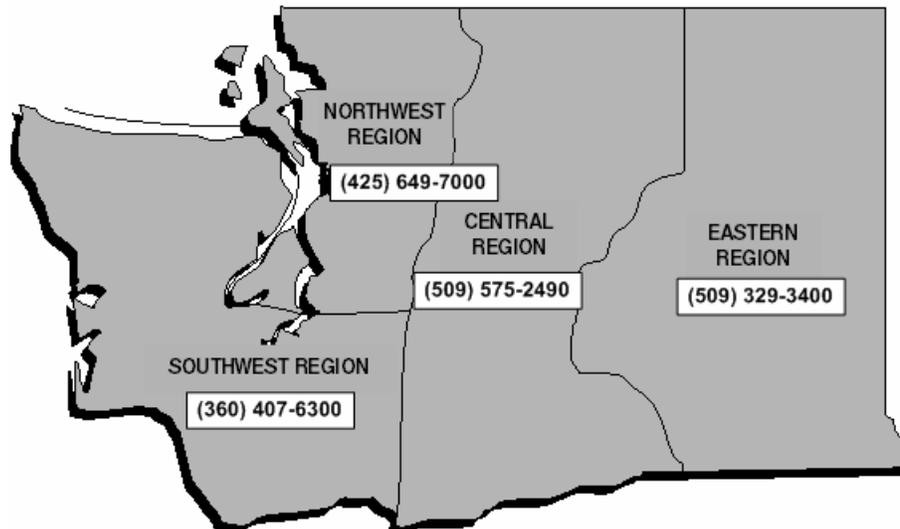
If you have questions regarding secondary containment of fertilizer or pesticides please contact:

WA Department of Agriculture
PO Box 42560
Olympia WA 98504-2560
(360) 902-2025

WA Department of Agriculture
222 N Havana #203
Spokane WA 99202
(509) 533-2689

State Emergency Management Division 24 Hour Spill Number, **1-800-258-5990.**

WA Department of Ecology regional offices:



If you need this information in an alternate format, please call the Hazardous Waste and Toxics Reduction Program at 360-407-6700. If you are a person with a speech or hearing impairment, call 711, or 800-833-6388 for TTY.