

EPA is requiring important new safety measures for soil fumigant pesticides to increase protections for agricultural workers and bystanders -- people who live, work, or otherwise spend time near fields that are fumigated. These measures are for the soil fumigants chloropicrin, dazomet, metam sodium/potassium, and methyl bromide.

This fact sheet summarizes new requirements to protect fumigant handlers and other workers from fumigant exposures. When new fumigant labels appear in the market place in 2010, fumigant users will need to comply with new requirements. Requirements for Buffer Zone Mitigation Measures, however, will not appear on fumigant labels until late 2011.

## **Buffer Zone Distances**

A buffer zone provides distance between the application site (i.e., edge of field) and bystanders, allowing airborne residues to disperse before reaching the bystanders. This buffer will reduce the chances that air concentrations where bystanders are located will cause acute adverse health effects.

EPA has selected buffer distances that will protect bystanders from acute exposures, but which are not so great as to eliminate benefits of soil fumigant use. The size of the buffer zones is based on the following factors:

- application rate;
- field size;
- application equipment and methods; and,
- credits for use of emission-reduction measures such as high-barrier tarps and site conditions.

Buffer zone distances are scenario-based using applicable site conditions and will be based on look-up tables on product labels. EPA is also giving “credits” to encourage users to employ practices which reduce emissions. Credits will reduce buffer distances. Some credits will also be available for site conditions that reduce emissions (e.g., high organic or clay content of soils).

To address the risk to bystanders who live and work near fumigated fields, the Agency is requiring buffer zones. The following summarizes the buffer zone requirements:

### **General**

- A “buffer zone” must be established around the perimeter of each application block or greenhouse where a soil fumigant is applied. The buffer zone must extend from the edge of the application block or greenhouse perimeter equally in all directions.
- All non-handlers including field workers, nearby residents, pedestrians, and other bystanders must be excluded from the buffer zone during the buffer zone period, except for people in transit (see exemptions section below).
- The “buffer zone period” starts at the moment when any fumigant is delivered/ dispensed to the soil within the application block or greenhouse and lasts for a minimum of 48 hours after the fumigant has stopped being delivered/dispensed to the soil.

## **New Requirements for Buffer Zones**

### **General**

## **Buffer Zone Distances**

### **Authorized Entry to Buffer Zones**

### **Buffer Zone Proximity**

### **Exemptions for Transit Through Buffer Zones**

### **Structures Under the Control of Owner/Operator of the Application Block**

### **Areas Not Under the Control of Owner/Operator of the Application Block**

#### **Buffer zone distances**

- Buffer zone distances must be based on look-up tables on product labels (25 feet is the smallest distance regardless of site-specific application parameters).
- For selective replant fumigation in an orchard using hand held application methods (e.g., deep injection auger probes) to treat individual tree holes, the minimum buffer zone will be 25 feet measured from the center of each injection site (i.e., tree hole).

#### **Authorized entry to buffer zones**

- Only authorized handlers who have been properly trained and equipped according to EPA's Worker Protection Standard (WPS) and label requirements may be in the buffer zone during the buffer zone period.

#### **Buffer zone proximity**

- To reduce the potential for off-site bystander exposure to peak fumigant emissions from multiple fumigated fields, buffer zones from multiple application blocks may only overlap under the following conditions:
  - For continuous-move center-pivot applications (metam sodium/potassium products only), buffers may overlap only if applications are made using low-drift systems.
  - For all other application methods, buffers may overlap only if at least 12 hours have elapsed from end of the application for which a buffer is already in place to the start of the subsequent application.
  - The certified applicators in charge of the fumigations must provide information to handlers who may work in the buffers about the protective equipment, signs of exposure, and health effects associated with each fumigant to which they may be exposed.

#### **Exemptions for transit through buffer zones**

- Vehicular and bicycle traffic on public and private roadways through the buffer zone is permitted
- Bus stops or other locations where persons wait for public transit are not permitted within the buffer zone.
- See the Posting Fact Sheet for additional requirements that may apply.

#### **Structures under the control of owner/operator of the application block**

- Buffer zones may not include buildings used for storage such as sheds, barns, garages, etc., **UNLESS**,
  - The storage buildings are not occupied during the buffer zone period, and
  - The storage buildings do not share a common wall with an occupied structure.
- See the Posting Fact Sheet for additional requirements that may apply.

#### **Areas not under the control of owner/operator of the application block**

- Buffer zones may not include residential areas (including employee housing, private property, buildings, commercial, industrial, and other areas that people may occupy or outdoor residential areas, such as lawns, gardens, or play areas) **UNLESS**,

**Areas Not Under the Control of Owner/Operator of the Application Block, continued**

- The occupants provide written agreement that they will voluntarily vacate the buffer zone during the entire buffer zone period, and
  - Reentry by occupants and other non-handlers does not occur until the buffer zone period has ended.
  - For methyl bromide formulations with less than 20% chloropicrin, air monitoring with direct-read instruments shows concentrations are below action levels before reentry is permitted.
- Buffer zones may not include agricultural areas owned/operated by persons other than the owner/operator of the application block, **UNLESS**,
    - The owner/operator of the application block can ensure that the buffer zone will not overlap with a buffer zone from any adjacent property owners, taking into account the amended requirements for overlapping buffers, and
    - The owner/operator of the areas that are not under the control of the applicator provides written agreement to the applicator that they, their employees, and other persons will stay out of the buffer zone during the entire buffer zone period.
  - Buffer zones may not include publicly owned and/or operated areas (e.g., parks, sidewalks, walking paths, playgrounds, athletic fields, etc), **UNLESS**,
    - The area is not occupied during the buffer zone period,
    - Entry by non-handlers is prohibited during the buffer zone period, and
    - Written permission is given by the appropriate state and/or local authorities to include public areas in the buffer zone.
  - Buffer zones may include publicly owned and/or operated roads, including rights of ways. As mentioned in the previous bullet, if a sidewalk or permanent walking path is associated with it, written permission must be given by the appropriate state and/or local authorities.

**Fumigation Restrictions Near Difficult-to-Evacuate Sites**

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- The Agency has defined “difficult-to-evacuate” sites to include schools, state-licensed daycare centers, nursing homes, assisted living facilities, hospitals, in-patient clinics, and prisons.
- No fumigant applications with buffer zones greater than 300 feet will be permitted within ¼ mile of a difficult-to-evacuate site unless the site is not occupied during the application and the 36-hour period following the application.
- If the fumigation buffer zone is 300 feet or less, then no fumigant applications will be permitted within 1/8 mile of a difficult-to-evacuate site unless the site is not occupied during the application and the 36-hour period following the application.

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For additional information, please see EPA’s Web page on risk mitigation measures for the soil fumigants, [http://www.epa.gov/oppsrrd1/reregistration/soil\\_fumigants/](http://www.epa.gov/oppsrrd1/reregistration/soil_fumigants/).