FUMIGANT VOC REGULATIONS

ENCLOSURE 1

REGULATIONS

Portions of the California Code of Regulations submitted for U.S. EPA approval

California Code of Regulations

(Title 3. Food and Agriculture)
Division 6. Pesticides and Pest Control Operations
Chapter 2. Pesticides
Subchapter 4. Restricted Materials
Article 4. Use Requirements

6447. Methyl Bromide Field Fumigation – General Requirements

The provisions of this section and sections 6447.1, 6447.2, 6447.3, and 6784(b) pertain to field soil fumigation using methyl bromide. For purposes of these sections, field soil fumigation does not apply to golf courses, replant of individual vine or tree-sites (tree holes) less than one contiguous acre, raised-tarpaulin nursery fumigations of less than one acre, potting soil, and greenhouses and other similar structures. . . .

NOTE: Authority cited: Sections 11456, 12976, 12981, 14005 and 14102, Food and Agricultural Code.

Reference: Sections 11501, 12981, 14006 and 14102, Food and Agricultural Code.

6447.3. Methyl Bromide Field Fumigation Methods.

(a) The methyl bromide field soil fumigation must be made using only the methods described in this section. However, within the San Joaquin Valley, Southeast Desert, or Ventura ozone nonattainment areas, the following methods are prohibited during the May 1 through October 31 time period: (1), (2), (4), and (6); and if applied as alternating fumigated and unfumigated areas (strip fumigation), methods (3) and (5). In addition to labeling requirements for each of these methods, the following requirements shall apply.

(1) Nontarpaulin/Shallow/Bed

(A) Application rate shall not exceed 200 pounds of methyl bromide per acre.

(B) The application tractor shall be equipped with an air fan dilution system.

(C) Rearward-curved (swept-back) chisels shall be used with:

1. closing shoes and bed-shaper, or closing shoes and compaction roller; and

2. chisel injection points positioned beneath and ahead of the closing shoes.

(D) Injection depth shall be between 10 and 15 inches. The injection depth to preformed beds must not be below the bed furrow.

(E) Injection spacing shall be 40 inches or less.

(F) The soil shall not be disturbed for at least three days (72 hours) following completion of injection to the application block.

(G) The application block restricted entry interval shall be three days.

(2) Nontarpaulin/Deep/Broadcast

(A) Application rate shall not exceed 400 pounds of methyl bromide per acre.

(B) Forward-curved chisel shall be used with:

1. An application tractor equipped with an air fan dilution system and the injection depth shall be at least 20 inches; or

2. Closing shoes and compaction roller and the injection depth shall be at least 24 inches.

(C) Injection spacing shall be 68 inches or less.

(D) The soil shall not be disturbed for at least four days (96 hours) following completion of injection to the application block.

(E) The application block restricted entry interval shall be four days.

(3) Tarpaulin/Shallow/Broadcast

(A) Application rate shall not exceed 400 pounds of methyl bromide per acre.

(B) Application shall be made using either:

1. An application tractor equipped with an air fan dilution system, and with a plow consisting of horizontal v-shaped blades mounted by a vertical arm to the tool bar. The fumigant shall be injected laterally beneath the soil surface; or

2. Rearward-curved (swept-back) chisels, closing shoes, and compaction roller shall be used.

(C) Injection depth shall be at least 10 and no greater than 15 inches.

(D) Injection spacing shall be 12 inches or less.

(E) The tarpaulin shall be laid down simultaneously (with fumigant injection) by tarpaulin-laying equipment mounted on the application tractor.

(F) The tarpaulin shall not be cut until a minimum of five days (120 hours) following completion of injection to the application block. The tarpaulin shall be cut pursuant to section 6784(b)(4).

(G) Tarpaulin removal shall begin no sooner than 24 hours after tarpaulin cutting has been completed.

(H) The application block restricted entry interval shall end at completion of tarpaulin removal, and shall be at least six days.

(4) Tarpaulin/Shallow/Bed

(A) Application rate shall not exceed 250 pounds of methyl bromide per acre.

(B) Rearward-curved (swept-back) chisels shall be used with either:

1. Closing shoes and compaction roller. The closing shoes shall cover the chisel marks with soil just ahead of the compaction roller, and the tarpaulin shall be laid down simultaneously (with fumigant injection) by tarpaulin-laying equipment mounted on the application tractor; or

2. Bed shaper. The chisels shall be placed with the injection point under the bed shaper, and the tarpaulin shall be laid down simultaneously (with fumigant injection) by tarpaulin-laying equipment mounted on the application tractor; or

3. Combination bed former and bed shaper. The chisels shall be placed between the bed former and the bed shaper. The tractor with the tarpaulin-laying equipment shall immediately follow the application tractor.

(C) Injection depth shall be between 6 and 15 inches. The injection depth to preformed beds must not be below the bed furrow.

(D) Injection spacing shall be 12 inches or less.

(E) The tarpaulin shall not be cut until at least five days (120 hours) following completion of injection to the application block.

(F) If tarpaulins are removed before planting, tarpaulin removal shall begin no sooner than 24 hours after tarpaulin cutting has been completed. The application block restricted-entry interval shall end at completion of tarpaulin removal, and shall be at least six days.

(G) If tarpaulins are not to be removed before planting, the application block restricted-entry interval shall either:

1. consist of the five-day period described in subsection (E) plus an additional 48 hours after holes have been cut for planting, or

2. be at least 14 days. If this option is chosen, the methyl bromide air concentration underneath the tarpaulin must test less than five parts per million before planting begins.

(5) Tarpaulin/Deep/Broadcast

(A) Application rate shall not exceed 400 pounds of methyl bromide per acre.

(B) Forward-curved chisels shall be used with either:

1. An air fan dilution system on the application tractor; or

2. Closing shoes and compaction roller.

(C) Injection depth shall be at least 20 inches.

(D) Injection spacing shall be 66 inches or less.

(E) The tarpaulin shall be laid down simultaneously (with fumigant injection) by tarpaulin-laying equipment mounted on the application tractor.

(F) The tarpaulin shall not be cut until at least five days (120 hours) following completion of injection to the application block. The tarpaulin shall be cut pursuant to section 6784(b)(4).

(G) Tarpaulin removal shall begin no sooner than 24 hours after tarpaulin cutting has been completed.

(H) The application block restricted entry interval shall end at completion of tarpaulin removal, and shall be at least six days.

(6) Drip System - Hot Gas A hot gas application through a subsurface drip irrigation system to tarpaulin-covered beds may be used if all of the following criteria are met:

(A) Application rate shall not exceed 225 pounds of methyl bromide per acre.

(B) The fumigant shall be injected beneath the soil surface at a minimum depth of one inch.

(C) The portion of the drip system used in the fumigation shall be physically disconnected from the main water supply during the fumigation to prevent possible contamination of the water supply.

(D) All fittings and emitters underneath the tarpaulin shall be buried in the soil to a minimum depth of one inch.

(E) Prior to the start of the fumigation, all drip tubing shall be checked for blockage, and the irrigation system connections and fittings checked for blockage and leaks using pressurized air and/or water. The end of each drip tubing shall be placed under the tarpaulin prior to introduction of fumigant.

(F) The tarpaulin shall be placed and inspected for tears, holes, or improperly secured edges prior to fumigating. Repairs and adjustments shall be made before the fumigation begins.

(G) Prior to the start of the fumigation, all fittings above ground and outside of the tarpaulin shall be pressure tested with compressed air, water, or nitrogen gas to a maximum pressure of 50 pounds per square inch. A soap solution shall be used to check the fittings for leaks if using air or nitrogen. All apparent leaks shall be eliminated prior to the fumigation. All drip tubing with emitters connected to the distribution manifold not covered by the tarpaulin shall be sealed to prevent fumigant loss through the emitters.

(H) Prior to introducing the fumigant, the drip system shall be purged of water by means of pressurized gas such as CO_2 or nitrogen.

(I) The drip system shall be purged prior to disconnecting any line containing the fumigant.

(J) After purging, drip tubing shall be pinched off and then disconnected from the distribution manifold. All disconnected tubing leading into the treated field shall be secured to prevent gas from escaping.

(K) All fittings used for connecting or disconnecting the heat exchanger to the irrigation system manifold shall be of a positive shut-off design.

(L) All persons shall wear the eye protection specified on the label when working with a manifold system or tubing containing the fumigant under pressure.

(M) The entire fumigation system (heater, valves, and manifold) shall be purged of the fumigant at the end of each day's fumigation.

(N) The tarpaulin shall not be cut until at least five days (120 hours) following completion of injection to the application block.

(O) If tarpaulins are removed before planting, tarpaulin removal shall begin no sooner than 24 hours after tarpaulin cutting has been completed. The application block restricted-entry interval shall end at completion of tarpaulin removal and shall be at least six days.

(P) If tarpaulins are not to be removed before planting, the application block restricted-entry interval shall either:

1. consist of the five-day period described in subsection (N) plus an additional 48 hours after holes have been cut for planting, or

2. be at least 14 days. If this option is chosen, the methyl bromide air concentration underneath the tarpaulin must test less than five parts per million before planting begins.

(b) Notwithstanding section 6770, the operator of the property shall assure that only persons performing fumigation-handling activities are allowed in an application block before the restricted entry interval expires. Persons performing activities other than tarpaulin cutting, removal, and repair described in sections 6784(b)(3), (4), and (5) shall wear a full-face respirator that meets the requirements of section 6784(b)(2)(C).

(c) Notwithstanding subsection (a), a reduced volatile organic compound emission field fumigation method approved pursuant to section 6452 or a method for experimental research purposes pursuant to a valid research authorization issued according to section 6260 may be allowed.

NOTE: Authority cited: Sections 11456, 12976, 12981, 14005 and 14102, Food and Agricultural Code.

Reference: Sections 11501, 12981, 14006 and 14102, Food and Agricultural Code.

6448. 1,3-Dichloropropene Field Fumigation – General Requirements.

The provisions of section 6448.1 apply to field soil fumigation using 1,3-Dichloropropene within the Sacramento Metro, San Joaquin Valley, South Coast, Southeast Desert, or Ventura ozone nonattainment areas during the May 1 through October 31 time period. Raised-tarpaulin nursery fumigations of less than one acre, or replant of individual vine or tree-sites (tree holes) less than one contiguous acre, are not considered field soil fumigations under the provision of section 6448.1.

NOTE: Authority cited: Sections 11456, 12976, 12981, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 12981, 14006, and 14102, Food and Agricultural Code.

6448.1. 1,3-Dichloropropene Field Fumigation Methods.

(a) Application rate must not exceed 332 pounds of 1,3-Dichloropropene active ingredient per acre.

(b) If there are no labeling requirements specifying soil moisture, then at time of application soil must contain at least enough moisture above the depth of application to meet the following test appropriate to the soil texture for:

(1) coarse soils (sand and loamy sand) – at least enough moisture to form a ball when compressed by hand, that may break when tapped;

(2) loamy, moderately coarse, or medium textured (coarse sandy loam, sandy loam, fine sandy loam) – at least enough moisture so that soil forms a ball that holds together when tapped;

(3) fine texture soils (clay loam, silty clay loam, sandy clay, silty clay, sandy clay loam and clay) – at least enough moisture so that the soil is pliable, not crumbly. Forms a ribbon when squeezed between thumb and forefinger.

(c) The 1,3-Dichloropropene field soil fumigation must be made using only the methodsdescribed in this section.However within the San Joaquin Valley, Southeast Desert, or Ventura ozone nonattainment areas, methods (1) and (2) are prohibited. In addition to labeling requirements for each of these methods, the following requirements shall apply.

(1) Nontarpaulin/Shallow/Broadcast or Bed

(A) Injection point must be at least 12 inches below the soil surface.

(B) Chisel trace must be eliminated by use of tillage equipment to mix the soil to a depth of at least three inches. Broadcast fumigation must be followed by compaction of the soil surface.

(2) Tarpaulin/Shallow/Broadcast or Bed

(A) Injection point must be at least 12 inches below the soil surface.

(B) Chisel trace must be eliminated by use of tillage equipment to mix the soil to a depth of at least three inches. Broadcast fumigation must be followed by compaction of the soil surface.

(C) Tarpaulins must be buried under at least four inches of firmly packed soil at the end of the rows.

(D) The operator of the property shall maintain a "tarpaulin repair response plan" pursuant to subsection (d).

(3) Nontarpaulin/Shallow/Broadcast or Bed/Three Post-Fumigation Water Treatments

(A) Injection point must be at least 12 inches below the soil surface.

(B) Chisel trace must be eliminated by use of tillage equipment to mix the soil to a depth of at least three inches. Broadcast fumigation must be followed by compaction of the soil surface.

(C) Fumigation must be completed in a time that allows compliance with the post-fumigation water treatments below:

1. Water must be applied by an irrigation method that uniformly covers the treated area in the entire application block.

2. On the day of fumigation, the first water treatment must consist of at least 0.20 inches of water, beginning within 30 minutes of the completion of fumigation. A second post-fumigation water treatment must consist of at least 0.20 inches of water applied starting no earlier than one hour prior to sunset on the day of fumigation and completed by midnight.

3. On the day following fumigation, a third post-fumigation water treatment must consist of at least 0.20 inches of water, and must be applied starting no earlier than one hour prior to sunset and completed by midnight.

4. Additional post-fumigation water treatment(s) may be applied at any time provided the treatments required above are completed in the specified time periods.

(4) Tarpaulin/Shallow/Bed/Three Post-Fumigation Water Treatment

(A) Injection point must be at least 12 inches below the soil surface.

(B) Chisel trace must be eliminated by use of tillage equipment to mix the soil to a depth of at least three inches.

(C) Tarpaulins must be buried under at least four inches of firmly packed soil at the ends of the rows.

(D) Fumigation must be completed in a time that allows compliance with the post-fumigation water treatments below:

1. Water must be applied by an irrigation method that uniformly covers the untarped area in the entire application block.

2. On the day of fumigation, the first water treatment must consist of at least 0.20 inches of water to the untarped areas, beginning within 30 minutes of the completion of fumigation. A second post-fumigation water treatment must consist of at least 0.20 inches of water to the untarped areas applied starting no earlier than one hour prior to sunset on the day of fumigation and completed by midnight.

3. On the day following fumigation, a third post-fumigation water treatment must consist of at least 0.20 inches of water to the untarped areas, and must be applied starting no earlier than one hour prior to sunset and completed by midnight.

4. Additional post-fumigation water treatment(s) may be applied at any time provided the treatments required above are completed in the specified time periods.

(E) The operator of the property shall maintain a "tarpaulin repair response plan" pursuant to subsection (d).

(5) Nontarpaulin/Deep/Broadcast or Bed

(A) Injection point must be at least 18 inches below the soil surface.

(B) Chisel trace must be eliminated by use of tillage equipment to mix the soil to a depth of at least three inches. Broadcast fumigation must be followed by compaction of the soil surface.

(6) Tarpaulin/Deep/Broadcast or Bed

(A) Injection point must be at least 18 inches below the soil surface.

(B) Chisel trace must be eliminated by use of tillage equipmentto mix the soil to a depth of at least three inches. Broadcast fumigation must be followed by compaction of the soil surface.

(C) Tarpaulins must be buried under at least four inches of firmly packed soil at the end of the rows.

(D) The operator of the property shall maintain a "tarpaulin repair response plan" pursuant to subsection (d).

(7) Chemigation (Drip System)/Tarpaulin

(A) Drip system must be filled with water and tested for pressure variation, clogged emitters, and leaks before chemigation. The pressure must not exceed the pressure rating of the drip tape, and the pressure variation in the drip tape throughout the field must be less than three pounds per square inch. Drip system must be free of leaks and clogged emitters.

(B) The tarpaulin shall be placed and inspected for tears, holes, or improperly secured edges prior to fumigating. Repairs and adjustments shall be made before the chemigation begins.

(C) Ends of drip tape not covered by tarpaulin must be covered by at least two inches of soil.

(D) After chemigation, the drip system must be flushed with a volume of water at least three times the volume of the mainline and laterals of the drip system.

(E) The operator of the property shall maintain a "tarpaulin repair response plan" pursuant to subsection (d).

(d) Tarpaulin Repair.

(1) If a tarpaulin is used, the operator of the property shall maintain a "tarpaulin repair response plan." The tarpaulin repair response plan shall identify the responsibilities of the licensed pest control business and/or the permittee with regard to tarpaulin damage detection and repair activities. At a minimum, the tarpaulin repair response plan shall indicate the parties responsible for the repair and incorporate the applicable elements listed in (2) below.

(2) The "tarpaulin repair response plan" must state with specificity the situations when tarpaulin repair must be conducted. The situations should be based on, but not limited to, hazard to the public, residents, or workers; proximity to occupied structures, size of the damaged area(s); timing of damage; feasibility and response time of repair; and environmental factors such as wind speed and direction.

(e) Notwithstanding subsection (c), a reduced volatile organic compound emission field fumigation method approved pursuant to section 6452 or a method for experimental research purposes pursuant to a valid research authorization issued according to section 6260 may be allowed.

NOTE: Authority cited: Sections 11456, 12976, 12981, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 12981, 14006, and 14102, Food and Agricultural Code.

6449. Chloropicrin Field Fumigation – General Requirements.

The provisions of section 6449.1 apply to field soil fumigation using chloropicrinwithin the Sacramento Metro, San Joaquin Valley, South Coast, Southeast Desert, or Ventura ozone nonattainment areas during the May 1 through October 31 time period. Raised-tarpaulin nursery fumigations of less than one acre or

replant of individual vine or tree-sites (tree holes) less than one contiguous acre are not considered field soil fumigations under the provisions of section 6449.1.

NOTE: Authority cited: Sections 11456, 12976, 12981, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 12981, 14006, and 14102, Food and Agricultural Code.

6449.1. Chloropicrin Field Fumigation Methods.

(a) Application rate must not exceed 400 pounds of chloropicrin per acre.

(b) For products containing chloropicrin as the sole active ingredient, the field soil fumigation must be made using only the methods described in section 6447.3 or 6448.1. However within the San Joaquin Valley, Southeast Desert, or Ventura ozone nonattainment areas the methods described in the following sections are prohibited: 6447.3(a)(1), (2), (4), and (6); if applied as alternating fumigated and unfumigated areas (strip fumigation), methods 6447.3(a)(3) and (5); 6448.1(c)(1) and (5); and if applied as a bed fumigation, 6448.1(c)(2).

(c) If there are no labeling requirements specifying soil moisture, then at time of application soil must contain at least enough moisture above the depth of application to meet the following test appropriate to the soil texture for:

(1) coarse soils (sand and loamy sand) - at least enough moisture to form a ball when compressed by hand, that may break when tapped;

(2) loamy, moderately coarse, or medium textured (coarse sandy loam, sandy loam, fine sandy loam) - at least enough moisture so that soil forms a ball that holds together when tapped;

(3) fine texture soils (clay loam, silty clay loam, sandy clay, silty clay, sandy clay loam and clay) - at least enough moisture so that the soil is pliable, not crumbly. Forms a ribbon when squeezed between the thumb and forefinger.

(d) Tarpaulin Repair.

(1) If a tarpaulin is used, the operator of the property shall maintain a "tarpaulin repair response plan." The tarpaulin repair response plan shall identify the responsibilities of the licensed pest control business and/or the permittee with regard to tarpaulin damage detection and repair activities. At a minimum, the tarpaulin repair response plan shall indicate the parties responsible for the repair and incorporate the applicable elements described in (2) below.

(2) The "tarpaulin repair response plan" must state with specificity the situations when tarpaulin repair must be conducted. The situations should be based on, but not limited to, hazard to the public, residents, or workers; proximity to occupied structures, size of the damaged area(s); timing of damage; feasibility and response time of repair; and environmental factors such as wind speed and direction.

(e) Notwithstanding subsection (b), a reduced volatile organic compound emission field fumigation method approved pursuant to section 6452 or a method for experimental research purposes pursuant to a valid research authorization issued according to section 6260 may be allowed.

NOTE: Authority cited: Sections 11456, 12976, 12981, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 12981, 14006, and 14102, Food and Agricultural Code.

6450. Metam-Sodium, Potassium N-methyldithiocarbamate (metam-potassium), and Dazomet Field Fumigation – General Requirements.

The provisions of sections 6450.1 and 6450.2 apply to field soil fumigation using metam-sodium, potassium N-methyldithiocarbamate (metam-potassium), or dazomet within the Sacramento Metro, San

Joaquin Valley, South Coast, Southeast Desert, or Ventura ozone nonattainment areas during the May 1 through October 31 time period. Golf courses, tree applications for prevention of root graft disease transmission, wood decay uses, potting soil, replant of individual vine or tree-sites (tree holes) less than one contiguous acre, raised-tarpaulin nursery fumigations of less than one acre, and greenhouses and other similar structures are not considered field soil fumigations under the provisions of sections 6450.1 and 6450.2.

NOTE: Authority cited: Sections 11456, 12976, 12981, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 12981, 14006, and 14102, Food and Agricultural Code.

6450.1. Metam-Sodium and Potassium N-methyldithiocarbamate (Metam-Potassium) Field Fumigation Methods.

(a) Application rate must not exceed 320 pounds active ingredient per acre for metam-sodium. Application rate must not exceed 350 pounds active ingredient per acre for potassium N-methyldithiocarbamate (metam-potassium).

(b) Except for the method described in subsection (d)(9), if there are no labeling requirements specifying soil moisture, then at time of application soil must contain at least enough moisture above the depth of application to meet the following test appropriate to the soil texture for:

(1) coarse soils (sand and loamy sand) – at least enough moisture to form a ball when compressed by hand, that may break when tapped;

(2) loamy, moderately coarse, or medium textured (coarse sandy loam, sandy loam, fine sandy loam) – at least enough moisture so that soil forms a ball that holds together when tapped;

(3) fine texture soils (clay loam, silty clay loam, sandy clay, silty clay, sandy clay loam, and clay) – at least enough moisture so that the soil is pliable, not crumbly. Forms a ribbon when squeezed between thumb and forefinger.

(c) Fumigations must start no earlier than one hour after sunrise and must be completed no later than one hour before sunset except for the method described in subsection (d)(9).

(d) The metam-sodium or potassium N-methyldithiocarbamate (metam-potassium) field soil fumigation must be made using only the methods described in this section. However, within the San Joaquin Valley, Southeast Desert, or Ventura ozone nonattainment areas, methods (1), (4), and (9) are prohibited. In addition to labeling requirements for each of these methods, the following requirements shall apply.

(1) Sprinkler/Broadcast or Bed/One Post-Fumigation Water Treatment

(A) Fumigation must be completed in a time that allows compliance with the post-fumigation water treatment below:

1. Water must be applied by an irrigation method that uniformly covers the treated area in the entire application block.

2. On the day of fumigation, one post-fumigation water treatment must consist of at least 0.20 inches of water, beginning within 30 minutes of the completion of fumigation.

3. Any additional post-fumigation water treatment(s) may be applied at any time.

(2) Sprinkler/Broadcast or Bed/Two Post-Fumigation Water Treatments

(A) Fumigation must be completed in a time that allows compliance with the post-fumigation water treatments below:

1. Water must be applied by an irrigation method that uniformly covers the treated area in the entire application block.

2. On the day of fumigation, the first post-fumigation water treatment must consist of at least 0.20 inches of water, beginning within 30 minutes of the completion of fumigation. A second post-fumigation water treatment must consist of at least 0.20 inches of water applied starting no earlier than one hour prior to sunset on the day of fumigation and completed by midnight.

3. Additional post-fumigation water treatment(s) may be applied at any time provided the treatments required above are completed in the specified time periods.

(3) Sprinkler/Broadcast or Bed/Three Post-Fumigation Water Treatments

(A) Fumigation must be completed in a time that allows compliance with the post-fumigation water treatments below:

1. Water must be applied by an irrigation method that uniformly covers the treated area in the entire application block.

2. On the day of fumigation, the first post-fumigation water treatment must consist of at least 0.20 inches of water, beginning within 30 minutes of the completion of fumigation. A second post-fumigation water treatment must consist of at least 0.20 inches of water applied starting no earlier than one hour prior to sunset on the day of fumigation and completed by midnight.

3. On the day following fumigation, a third post-fumigation water treatment must consist of at least 0.20 inches of water, and must be applied starting no earlier than one hour prior to sunset and completed by midnight.

4. Additional post-fumigation water treatment(s) may be applied at any time provided the treatments required above are completed in the specified time periods.

(4) Nontarpaulin/Shallow/Broadcast or Bed/One Post-Fumigation Water Treatment

(A) Fumigation must be completed in compliance with the post-fumigation water treatments pursuant to subsection (d)(1)(A).

(5) Nontarpaulin/Shallow/Broadcast or Bed /Two Post-Fumigation Water Treatments

(A) Fumigation must be completed in compliance with the post-fumigation water treatments pursuant to subsection (d)(2)(A).

(6) Nontarpaulin/Shallow/Broadcast or Bed/Three Post-Fumigation Water Treatments

(A) Fumigation must be completed in compliance with the post-fumigation water treatments pursuant to subsection (d)(3)(A).

(7) Chemigation (Drip System)

(A) Drip system must be filled with water and tested for pressure variation, clogged emitters, and leaks before chemigation. The pressure must not exceed the pressure rating of the drip tape and the pressure variation in the drip tape throughout the field must be less than three pounds per square inch. Drip system must be free of leaks and clogged emitters.

(B) After chemigation, the drip system must be flushed with a volume of water at least three times the volume of the mainline and laterals of the drip system.

(8) Rotary Tiller/Power Mulcher/Soil Capping

(A) Application equipment must be followed immediately by soil compaction equipment.

(9) Flood

(A) The fumigant must be applied with at least six inches of water per acre.

(e) Notwithstanding subsection (d), a reduced volatile organic compound emission field fumigation method approved pursuant to section 6452 or a method for experimental research purposes pursuant to a valid research authorization issued according to section 6260 may be allowed.

NOTE: Authority cited: Sections 11456, 12976, 12981, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 12981, 14006, and 14102, Food and Agricultural Code.

6450.2. Dazomet Field Fumigation Methods.

(a) Fumigations must start no earlier than one hour after sunrise and must be completed no later than one hour before sunset.

(b) The field soil fumigation using dazomet is limited to methods specifically identified in the labeling. In addition to labeling requirements for each identified method, the fumigation must comply with the following.

(1) Fumigation must be completed in a time that allows compliance with the post-fumigation water treatments below:

(A) Water must be applied by an irrigation method that uniformly covers the treated area in the entire application block.

(B) On the day of fumigation, the first water treatment must consist of at least 0.20 inches of water, beginning within 30 minutes of the completion of fumigation. A second post-fumigation water treatment must consist of at least 0.20 inches of water applied starting no earlier than one hour prior to sunset on the day of fumigation and completed by midnight.

(C) On the day following fumigation, a third post-fumigation water treatment must consist of at least 0.20 inches of water, and must be applied starting no earlier than one hour prior to sunset and completed by midnight.

(D) On the second day following fumigation, a fourth post-fumigation water treatment must consist of at least 0.20 inches of water, and must be applied starting no earlier than one hour prior to sunset and completed by midnight.

(E) Additional post-fumigation water treatment(s) may be applied at any time provided the treatments required above are completed in the specified time periods.

(c) Notwithstanding subsection (b), a reduced volatile organic compound emission field fumigation method approved pursuant to section 6452 or a method for experimental research purposes pursuant to a valid research authorization issued according to section 6260 may be allowed.

NOTE: Authority cited: Sections 11456, 12976, 12981, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 12981, 14006, and 14102, Food and Agricultural Code.

6451. Sodium Tetrathiocarbonate Field Fumigation - General Requirements.

The provisions of section 6451.1 apply to field soil fumigation using sodium tetrathiocarbonatewithin the Sacramento Metro, San Joaquin Valley, South Coast, Southeast Desert, or Ventura ozone nonattainment areas below during the May 1 through October 31 time period. Replant of individual vine or tree-sites (tree holes) less than one contiguous acre, and raised-tarpaulin nursery fumigations of less than one acre, and greenhouses and other similar structures are not considered field soil fumigations under the provisions of section 6451.1.

NOTE: Authority cited: Sections 11456, 12976, 12981, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 12981, 14006, and 14102, Food and Agricultural Code.

6451.1 Sodium Tetrathiocarbonate Field Fumigation Methods.

(a) The field soil fumigation of sodium tetrathiocarbonate is limited to methods specifically identified in the labeling.

(b) Notwithstanding subsection (a), a reduced volatile organic compound emission field fumigation method approved pursuant to section 6452 or a method for experimental research purposes pursuant to a valid research authorization issued according to section 6260 may be allowed.

NOTE: Authority cited: Sections 11456, 12976, 12981, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 12981, 14006, and 14102, Food and Agricultural Code.

6452. Reduced Volatile Organic Compound Emissions Field Fumigation Methods.

(a) For the Sacramento Metro and South Coast ozone nonattainment areas, the Director may approve use of a field fumigation method not described in sections 6447.3, 6448.1, 6449.1, 6450.1, 6450.2, and 6451.1 if the request is accompanied by scientific data documenting the volatile organic compound (VOC) emissions. The emission rating specified in section 6452.4 or the maximum emission rate (emission rating multiplied by the maximum application rate) must be no greater than any one of the methods for the same fumigant described in sections 6447.3, 6448.1, 6449.1, 6450.1, 6450.2, and 6451.1.

(b) For the San Joaquin Valley, Southeast Desert, and Ventura ozone nonattainment areas, upon written request, the Director may approve use of a field fumigation method either not described or excluded from use in sections 6447.3, 6448.1, 6449.1, 6450.1, 6450.2, or 6451.1 if the request meets the following criteria:

(1) The request is accompanied by scientific data documenting the VOC emissions;

(A) The emission rating, as specified in section 6452.4, is no greater than any one of the methods for the same fumigant allowed for use in the San Joaquin Valley, Southeast Desert, and Ventura ozone nonattainment areas as specified in sections 6447.3, 6448.1, 6449.1, 6450.1, 6450.2, or 6451.1, or

(B) The maximum emission rate (emission rating multiplied by the maximum application rate) is no greater than any one of the methods for the same fumigant allowed for use in the San Joaquin Valley, Southeast Desert, and Ventura ozone nonattainment areas as specified in sections 6447.3, 6448.1, 6449.1, 6450.1, 6450.2, or 6451.1.

(c) Criteria the Director shall consider includes whether:

(1) the data and information provided are sufficient to estimate emissions;

(2) the results are valid as indicated by the quality control data; and

(3) the conditions studied represent agricultural fields fumigated.

(d) The Director shall publish a notice of interim approval for a field fumigation method on the Department's Web site. The interim approval expires three years after the date of approval.

NOTE: Authority cited: Sections 11456, 12976, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 14006, and 14102.

6452.1 Fumigant Volatile Organic Compound Emission Records and Reporting.

(a) Any person who applies field fumigants shall maintain records of fumigant applications pursuant to section 6624.

(b) Any person who applies field fumigants shall report the information specified in section 6626.

NOTE: Authority cited: Sections 11456, 12976, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 14006, and 14102.

6452.2 Fumigant Volatile Organic Compound Emission Limits.

(a) Beginning in 2011, the Director shall establish field fumigant volatile organic compound (VOC) emission limits in the Annual Volatile Organic Compound Emissions Inventory Report issued pursuant to section 6452.4 for areas that exceed 80 percent of the emissions benchmarks listed below during the May 1 through October 31 time period:

Ozone Nonattainment Area	**Total Agricultural and Structural VOC Emissions Inventory Benchmarks from May 1 to October 31**
. . .	. . .
. . .	. . .
. . .	. . .
. . .	. . .
Ventura	1,100,000 lbs. (3.0 tons/day average)

This subsection shall not apply to Ventura until 2012. The field fumigant VOC emission limits for the Ventura ozone nonattainment area prior to 2012 are established pursuant to subsection (c).

(b) The Director shall calculate the field fumigant VOC emission limits specified in (a) by subtracting the nonfumigant pesticide VOC emissions from the total agricultural and structural VOC emissions inventory benchmarks. Nonfumigant pesticide product emissions will be the summation of the pounds of each pesticide product used multiplied by the VOC content (emission potential) for the specific product.

(c) For the Ventura ozone nonattainment area, the Director establishes a field fumigant VOC emission limit of 1,214,000 pounds (average 3.30 tons/day) for applications that occur during May 1 to October 31, 2008. The Director shall establish field fumigant emission limits in Ventura for 2009, 2010, and 2011, in the Volatile Organic Compound Emissions Inventory Report pursuant to section 6452.4 by subtracting the nonfumigant emissions from the following benchmarks:

Ozone Nonattainment Area	Total Agricultural and Structural VOC Emissions Inventory Benchmarks from May 1 to October 31
Ventura	1,500,000 lbs. (4.0 tons/day average) in 2009
Ventura	1,300,000 lbs. (3.6 tons/day average) in 2010
Ventura	1,200,000 lbs. (3.3 tons/day average) in 2011

NOTE: Authority cited: Sections 11456, 12976, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 14006, and 14102, Food and Agricultural Code.

6452.3 Field Fumigant Volatile Organic Compound Emission Allowances.

(a) No person may apply a field fumigant during the May 1 through October 31 time period in an ozone nonattainment area for which a fumigant emission limit has been established pursuant to section 6452.2, unless their restricted material permit includes a field fumigant emission allowance.

(b) To obtain a field fumigant emission allowance, a permittee shall request an emission allowance by submitting information to the commissioner by a date designated by the commissioner. The information must include but is not limited to the following:

(1) operator identification number;

(2) county;

(3) crop;

(4) month(s) of application;

(5) number of acres to be fumigated;

(6) identification of each site to be fumigated;

(7) meridian, township, range, and section of sites to be fumigated;

(8) verification of operator of property for each site identified;

(9) identification of fumigant products to be used;

(10) the application rate; and

(11) fumigation method.

(c) The Director shall establish a fumigant emission allowance(s) for each permittee so that the total allowances in each ozone nonattainment area do not exceed the fumigant limit established for that area. If the total allowances requested exceed an established fumigant emission limit, the Director will proportionally reduce each request to ensure that the limit is not exceeded.

(d) Commissioners in each ozone nonattainment area subject to a fumigant emission limit shall issue permits or amend existing permits to comply with the fumigant emission allowance(s) established by the Director.

(e) Commissioners shall deny any notice of intent that does not comply with the permittees' fumigant emission allowances.

NOTE: Authority cited: Sections 11456, 12976, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 14006, and 14102, Food and Agricultural Code.

6452.4. Annual Volatile Organic Compound Emissions Inventory Report.

(a) The Director shall issue an annual emissions inventory report for the Sacramento Metro, San Joaquin Valley, South Coast, Southeast Desert, and Ventura ozone nonattainment areas. The emission inventory report must:

(1) report the total agricultural and structural (fumigant and nonfumigant) pesticide volatile organic compound (VOC) emissions for the previous years. Nonfumigant pesticide product emissions will be the summation of the pounds of each pesticide product used multiplied by the VOC content (emission potential) for the specific product. Fumigant product emissions will be the summation of the pounds of each pesticide product used multiplied by the emission potential for that specific product and VOC emission rating for the application method, as specified in (5);

(2) evaluate compliance with the total pounds of agricultural and structural VOC emissions specified in section 6452.2;

(3) establish fumigant emissions limits established pursuant to section 6452.2 for the upcoming year;

(4) (reserved)

(5) establish an emission rating for each field fumigation method described in sections 6447.3, 6448.1, 6449.1, 6450.1, 6450.2, 6451.1, or 6452. The emission rating will be expressed as a percentage of the amount of fumigant applied. The Director shall base the emission rating upon available scientific data documenting the VOC emissions.

(b) A draft emission report shall be made available to the public for comment. A 45-day public comment period will be provided to allow for submission of written statements or arguments to the Director for review before making finalizing the Annual Volatile Organic Compound Emission Report. The emission report will be posted on the Department's Web site.

(c) The emission ratings as shown in Table 22 in the September 29, 2007 Barry, Spurlock, and Segawa memorandum to John Sanders, shall be used to determine the emissions. These emission ratings may be modified by the final annual emissions inventory report.

NOTE: Authority cited: Sections 11456, 12976, 14005, and 14102, Food and Agricultural Code. Reference: Sections 11501, 14006, and 14102, Food and Agricultural Code.

Division 6. Pesticides and Pest Control Operations
Chapter 3. Pest Control Operations
Subchapter 2. Work Requirements
Article 1. Pest Control Operations Generally

6624. Pesticide Use Records

(a) The following persons shall maintain records of pesticide use:

(1) Any person who uses a pesticide for an agricultural use as defined in Food and Agricultural Code section 11408, other than use on livestock as defined in Food and Agricultural Code section 18663;

(2) Any person who uses a pesticide listed in section 6400;

(3) Any person engaged for hire in the business of pest control;

(4) Any person who uses a pesticide for industrial post-harvest commodity treatment; and

(5) Any person who uses a pesticide listed in section 6800(b) for any outdoor institution or outdoor industrial use.

(b) The records shall include the following information for each pest control operation:

(1) Date of application;

(2) Name of the operator of the property treated;

(3) Location of property treated;

(4) Crop commodity, or site treated;

(5) Total acreage or units treated at the site; and

(6) Pesticide, including the U.S. Environmental Protection Agency (U.S. EPA) or State registration number which is on the pesticide label, and amount used.

(c) In addition to the information required in subsection (b), the operator of the property which is producing an agricultural commodity, and an agricultural pest control business applying pesticides to such property, shall include in the records the following information for each pest control operation:

(1) Location of the property treated, by county, section, township, range, base and meridian;

(2) Hour the treatment was completed;

(3) The operator identification number issued to the operator of the property treated;

(4) The site identification number issued to the operator of the property treated;

(5) Total acreage (planted) or units at the site; and

(6) Name or identity of the person(s) who made and supervised the application, if the pesticide application was made by an agricultural pest control business.

(d) The operator of the property which is producing an agricultural commodity shall maintain records of pesticides applied by an agricultural pest control business to such property, by site.

(e) In addition to the information required in (b), effective January 1, 2002, persons engaged for hire in the business of pest control at a school site [defined in Education Code section 17609(e)] shall include in the records the following information for each pest control operation:

(1) Time application was completed;

(2) Name and address of the school site; and

(3) Application location at the school site. For purposes of this subsection, location includes, but is not limited to, classrooms, playgrounds, cafeteria, vehicles, and athletic fields.

(f) In addition to the information required in subsections (b) and (c), persons who use methyl bromide, 1,3-Dichloropropene, chloropicrin, metam-sodium, N-methyl dithiocarbamate (metam-potassium), dazomet, or sodium tetrathiocarbonate field fumigants within the Sacramento Metro, San Joaquin Valley, South Coast,

Southeast Desert, or Ventura ozone nonattainment areas shall include in the records a description of the method of application pursuant to sections 6447.3, 6448.1, 6449.1, 6450.1, 6450.2, 6451.1, or 6452.

(g) The records required pursuant to this section shall be retained for two years and made promptly available to the director or commissioner upon request.

NOTE: Authority cited: Sections 12976, 13145, 13188, and 14005, Food and Agricultural Code. Reference: Sections 11501, 11708, 11733, 13186, 14006, and 14011.5, Food and Agricultural Code.

Reference: Sections 11501, 11708, 11733, 12981, 14006, and 14011.5, Food and Agricultural Code.

6626. Pesticide Use Reports for Production Agriculture.

(a) The operator of the property which is producing an agricultural commodity shall report the use of pesticides applied to the crop, commodity, or site to the commissioner of the county in which the pest control was performed. This report must be submitted by the 10th day of the month following the month in which the work was performed. This report is not required if the pesticide use is reported to the commissioner by an agricultural pest control business as specified in subsection (b); however, the operator of the property treated, shall retain a copy of the business' "Report by Site" for two years.

(b) An agricultural pest control business shall report the use of pesticides applied by it for the production of an agricultural commodity to the commissioner of the county in which the pest control was performed. This report must be submitted within seven days of completion of the pesticide application. A copy of the report shall be sent by the business to the operator of the property where the pest control was done within 30 days of completion of the pesticide application.

(c) Except as provided in (d), each report of pesticide use pursuant to this Section shall be on a department form or in a format approved by the director. Acceptable department forms include form 38-017 for an operator of the property to report pursuant to subsection (a), and 39-025 for an agricultural pest control business to report pursuant to subsection (b). The information to be reported shall include the information specified in Section 6624, and the name and address of the agricultural pest control business which made the application, if such a business made the application.

(d) A copy of the use report required by (a) or (b) for the application of a field soil fumigant in the Sacramento Metro, San Joaquin Valley, South Coast, Southeast Desert, and Ventura ozone nonattainnent areas must be submitted to the Department with the field fumigation method as specified in section 6624(f) appended to the report. The report must be delivered to the Department according to the date specified in (a) or (b), whichever is applicable. This subsection shall remain in effect only until December 31, 2008.

(e) Effective January 1, 2009, a use report required by (a) or (b) for the application of a field soil fumigants in the Sacramento Metro, San Joaquin Valley, South Coast, Southeast Desert, and Ventura ozone nonattainment areas shall include the information specified in 6624(f) in addition to that required by this section.

(f) If the report is mailed, the postmark shall be the date of delivery.

(g) If the county in which work was performed has no commissioner, the report shall be made to the director.

NOTE: Authority cited: Sections 11456, 11502, 12976, 13145 and 14005, Food and Agricultural Code.

Reference: Sections 11501, 11708, 11733, 12981, 14006 and 14011.5, Food and Agricultural Code.