



Permit Number

Initial

## Kern County Chloropicrin Field Fumigation Permit Conditions

(Effective 1/1/2024)

### A. Introduction

These recommended permit conditions were developed to mitigate hazards of offsite movement of chloropicrin and apply to all field soil fumigation of products containing more than 2% chloropicrin. These permit conditions do not apply to non-field fumigations, including greenhouses, potting soil, and golf courses.

Based on site evaluation the Commissioner may impose additional restrictions.

These permit conditions shall be used in addition to the provisions in the California Food and Agricultural Code (FAC), Title 3, California Code of Regulations (3 CCR), and product labeling, including California-specific labeling requirements (<https://www.cdpr.ca.gov/chloropicrin.htm>). Any conflict between these conditions and any other applicable conditions, laws, regulations, and/or label statements shall be resolved in favor of the most restrictive requirement.

**Chloropicrin can only be used by certified applicators or persons under their direct supervision. Effective 1/1/2024, the use of a restricted material which bears labeling designating the product as a soil fumigant shall only be used by or under the direct supervision of a certified commercial applicator (QAL/QAC) with a Category L – Soil Fumigation category.**

#### Combination Applications:

Any application of either: (1) a product that includes chloropicrin and another fumigant; or (2) simultaneous applications of chloropicrin and another fumigant product are subject to all applicable recommended permit conditions for each fumigant active ingredient.

### B. Notice of Intent (NOI)

1. The notice of intent (NOI) shall be submitted at least **96** hours before the fumigation begins and include the time fumigation is scheduled to begin. The fumigation cannot begin sooner than the time listed on the NOI.
  - a. If the fumigation does not begin on the date or time proposed on the NOI the certified applicator shall reevaluate the application to determine if this change in

date or time will result in overlapping chloropicrin buffer zones and take appropriate steps to comply with label and permit condition requirements.

2. NOI must include amount of Chloropicrin, by pounds of active ingredient (AI)/acre.
3. NOI must include exact application method.
4. NOI must include the method of sealing the application.
5. NOI must be submitted with the written recommendation and a detailed map showing surrounding land use, schools, sensitive areas, occupied structures, bus stops and any other bystander areas within ¼ mile of the treatment site.
6. NOI must be submitted with written permission to allow the buffer zone to extend into adjoining agricultural property.
7. NOI must include all pesticides for the proposed application.
8. If tarps will be used, the NOI must include a copy of the tarp invoice. Confidential business information, such as pricing, can be omitted.
9. NOI not submitted with required elements or supporting documents will be denied.

#### **C. Fumigation Management Plan (FMP)**

A copy of the site-specific Fumigation Management Plan (FMP) must be available at the application site during the entire application.

#### **D. Tarps that qualify as Totally Impermeable Film (TIF)**

The Department of Pesticide Regulation (DPR) has created a California-specific list of totally impermeable films (TIF) for soil fumigant products containing chloropicrin that qualify for reduced buffer zone distances as shown in tables 1 through 4 of Section S at the end of these permit conditions. The approved TIF list is on the DPR website at:

[https://www.cdpr.ca.gov/docs/emon/pubs/tac/dpr\\_tarp\\_list.pdf](https://www.cdpr.ca.gov/docs/emon/pubs/tac/dpr_tarp_list.pdf)

#### **E. Maximum Rate**

The maximum chloropicrin rate shall not exceed 200 pounds active ingredient per acre (lbs AI/ac) for all applications that do not utilize TIF tarps.

(See additional restrictions for Schools, Difficult to Evacuate Sites and Other Designated Sensitive Areas in Section R.)

#### **F. Application Block**

An application block is a field, or the portion of a field treated in a 24-hour period that typically is identified by visible indicators, maps, or other tangible means (3 CCR section 6000).

#### **G. Tarp Combination**

An application block shall only be covered with tarps in the same permeability category.

#### **H. Application Block Size Limit**

1. For only those chloropicrin applications that do not include methyl bromide and use totally impermeable film (TIF), application block size is limited to 60 acres.
2. For all Non-TIF and all untarped applications, and for any TIF application that includes methyl bromide – the application block size is limited to 40 acres at one location within a 24-hour period.

(See additional restrictions for Schools, Difficult to Evacuate Sites and Other Designated Sensitive Areas in Section R.)

## **I. Buffer Zone Tables for Chloropicrin- only products and Chloropicrin/ 1,3-Dichloropropene combinations**

The buffer zone tables consist of the following:

<b>Method:</b>	<b>Use Buffer Zone Table:</b>
TIF broadcast shank injection	Table 1
TIF bed injection	Table 2
TIF strip deep injection*	Table 3
TIF drip	Table 4
Non-TIF tarp broadcast shank injection	Table 5
Non-TIF tarp bed injection	Table 6b
Non-TIF tarp strip injection	Table 7b
Non-TIF tarp drip	Table 8b
Untarped broadcast shallow injection	Table 9b
Untarped broadcast deep injection	Table 10b
Untarped bed injection	Table 11b
Untarped drip**	Table 12

\*TIF tarp strip shallow injection is prohibited.

\*\*Untarped drip applications with products containing Methyl Bromide are prohibited.

Applicators must utilize the buffer zone table(s) in Section “S” at the end of these permit conditions to determine the buffer zone distance. Similar to labels, the broadcast-equivalent application rate is used to determine the buffer zone requirements. However, labels specify the buffer zone distance based on the broadcast-equivalent application rate for the product. The buffer zone tables in these permit conditions specify the distance based on the broadcast-equivalent application rate for the chloropicrin active ingredient (lbs AI/ac). The broadcast-equivalent application rate for the AI is calculated using the same procedure as described on the label for bed/strip width and row spacing, then adjusting for the percent of chloropicrin listed on the label. For example, if the broadcast-equivalent application rate for the product is 300 lbs/ac and the product contains 60% chloropicrin, the broadcast-equivalent application rate for chloropicrin is  $300 \times 0.60 = 180$  lbs AI/ac.

**Label-specified buffer zone reduction credits are not allowed.** These tables already take into account any reductions in buffer zones that would be allowed in California due to buffer zone credits found on the chloropicrin product labels.

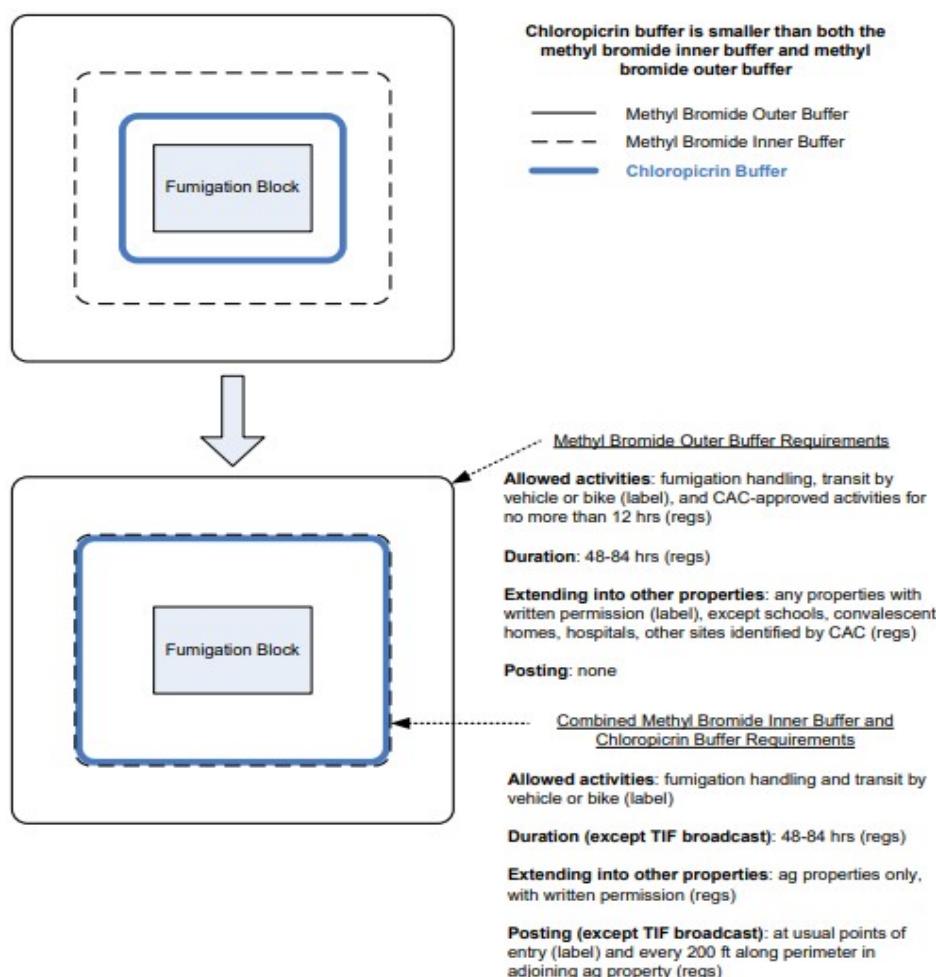
## **J. Buffer Zones for Methyl bromide and Chloropicrin combinations**

For products containing methyl bromide and chloropicrin, determine the methyl bromide and chloropicrin buffer zones separately. Determine the methyl bromide outer and inner buffer zones distances following the procedure described in Appendix M, *Methyl Bromide Field Fumigation Recommended Permit Conditions*, of the Pesticide Use Enforcement Program Standards Compendium, Volume 3 *Restricted Materials and Permitting*. Determine the chloropicrin buffer zone using the appropriate buffer table in Section S at the end of these permit conditions. These determinations will result in three (3) possible scenarios for buffer zone restrictions:

**Scenario 1:** If the chloropicrin buffer zone is smaller than the methyl bromide inner zone, then there are two buffer zones – a combined methyl bromide inner/chloropicrin buffer zone and a methyl bromide outer buffer zone. In this case the methyl bromide inner buffer zone distance also functions as the chloropicrin buffer zone distance. Both the chloropicrin buffer zone and methyl bromide inner buffer zone restrictions apply. All of the methyl bromide outer buffer zone restrictions also apply.

**Buffer zones  
for methyl  
bromide and  
chloropicrin  
combinations  
(continued)**

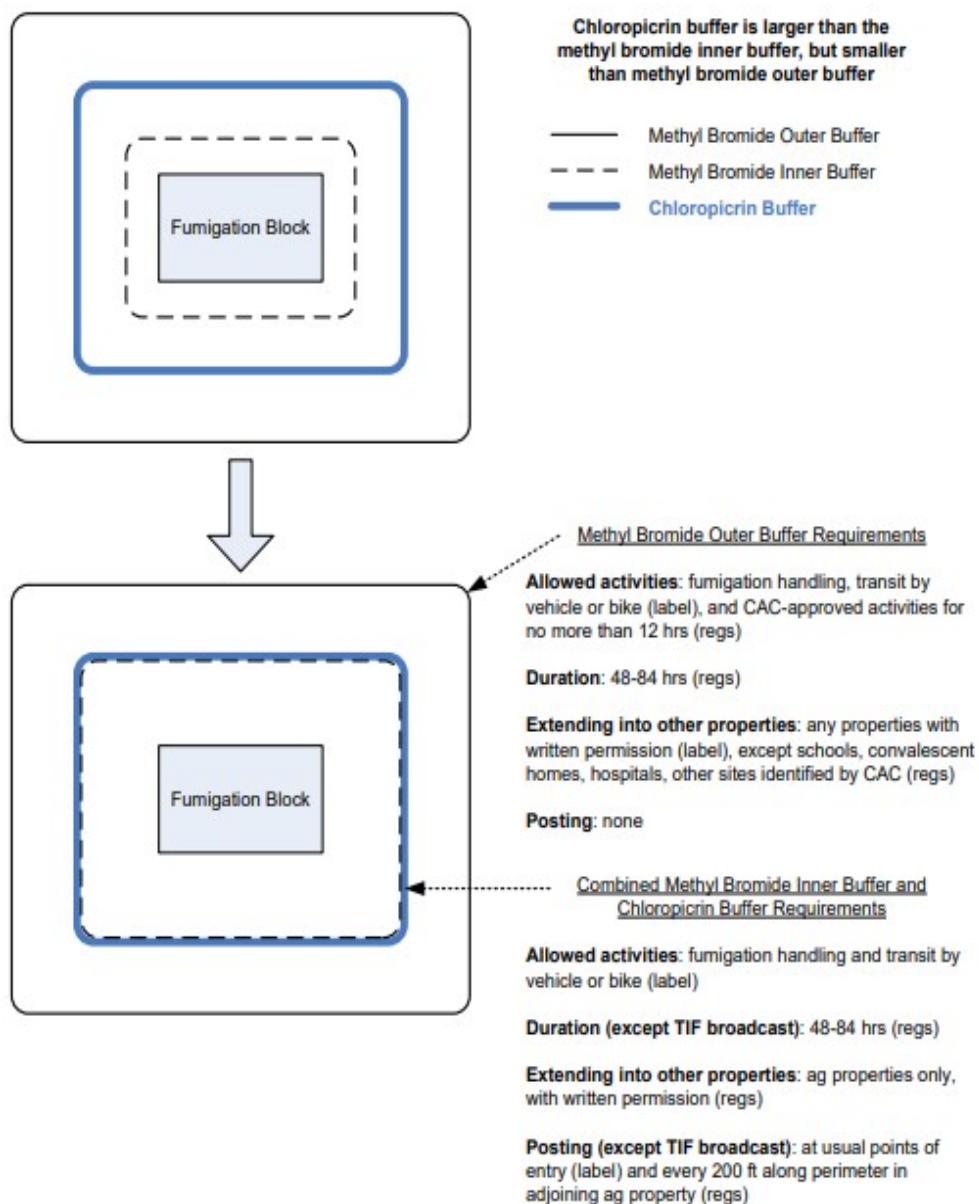
**Scenario 1. Buffer Zone Requirements for Methyl Bromide/Chloropicrin Combination Fumigations**



**Scenario 2:** If the chloropicrin buffer zone is larger than the methyl bromide inner buffer zone, but smaller than the methyl bromide outer buffer zone, then there are two buffer zones – a combined methyl bromide/chloropicrin buffer zone and a methyl bromide outer buffer zone. In this case the chloropicrin buffer zone distance also functions as the methyl bromide inner buffer zone distance. Both the chloropicrin buffer zone and methyl bromide inner buffer zone restrictions apply. All of the methyl bromide outer buffer zone restrictions also apply.

### Buffer zones for methyl bromide and chloropicrin combinations (continued)

#### Scenario 2. Buffer Zone Requirements for Methyl Bromide/Chloropicrin Combination Fumigations

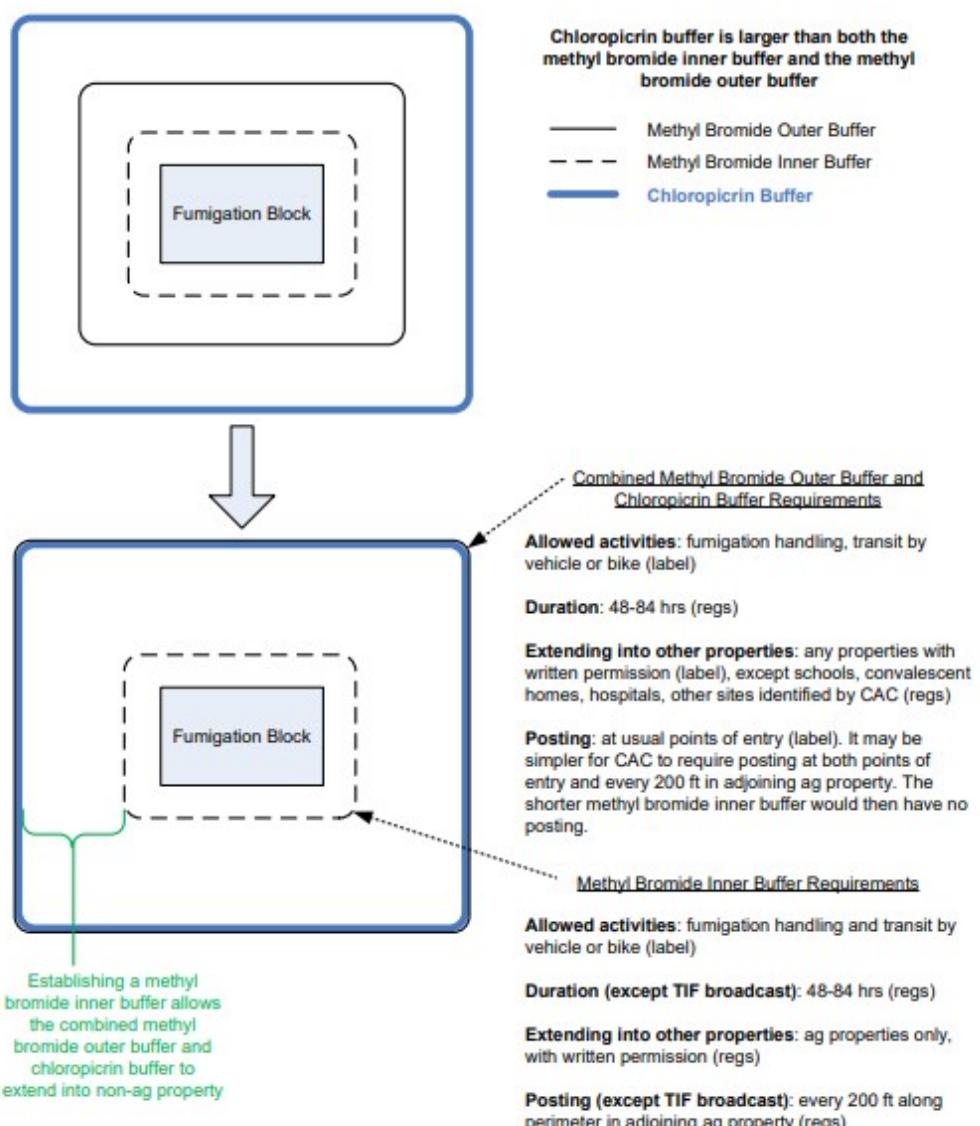


**Scenario 3:** If the chloropicrin buffer zone is larger than the outer methyl bromide buffer zone, then there are two buffer zones – a methyl bromide inner buffer zone and a combined methyl bromide outer/chloropicrin buffer zone.

All of the methyl bromide inner buffer zone restrictions apply to the methyl bromide inner buffer zone. In this case the chloropicrin buffer zone distance also functions as the methyl bromide outer buffer zone distance. Both the chloropicrin buffer zone and methyl bromide outer buffer zone restrictions apply to the combined buffer zone, consequently no persons are allowed within this buffer zone except to perform fumigation-handling activities or transit by vehicle or bicycle.

**Buffer zones  
for methyl  
bromide and  
chloropicrin  
combinations  
(continued)**

Scenario 3. Buffer Zone Requirements for Methyl Bromide/Chloropicrin Combination Fumigations



For all scenarios, the buffer zone duration for methyl bromide is the same or more restrictive than the duration for chloropicrin. Use the buffer duration specified in Appendix M, *Methyl Bromide Field Fumigation Recommended Permit Conditions*, page M-11.

## K. Minimum Buffer Zone Distances

The minimum buffer zone distances are:

1. TIF tarp: 25 feet
2. Non-TIF tarp applications less than or equal to 6 acres: 60 feet
3. Non-TIF tarp applications greater than 6 acres: 100 feet
4. Untarped: 100 feet

(See additional restrictions for Schools, Difficult to Evacuate Sites and Other Designated Sensitive Areas in Section R.)

For products containing methyl bromide and chloropicrin, the methyl bromide minimum buffer zone may be longer.

## L. Tree Hole Fumigation Limitations

The maximum number of tree holes and acreage allowed to be treated for any site (entire orchard) in a 24-hour period are:

1. 50 holes per acre in no more than 40 acres
2. 75 holes per acre in no more than 10 acres
3. 100 holes per acre in no more than 5 acres
4. 200 holes in no more than 1 acre

If any site is fumigated more than once (e.g., sequential applications within a single orchard), at least 36 hours must elapse between fumigations. Elapsed time is measured from the time the earlier application is complete until the start of the later application.

These limits assume that the tree holes are evenly distributed across the site and may not provide adequate protection for tree holes that are unevenly distributed. To prevent bunching of tree holes, the following spacing between fumigated tree holes is listed as a guide:

1. At least 30 feet for 50 holes per acre in no more than 40 acres
2. At least 25 feet for 75 holes per acre in no more than 10 acres
3. At least 20 feet for 100 holes per acre in no more than 5 acres
4. At least 15 feet for 200 holes in no more than 1 acre

This minimum spacing does not need to be achieved for each tree hole but shall be achieved for the majority of tree holes, particularly near the borders of an orchard.

A separation of 51 feet between tree holes (i.e., minimum distance for no overlapping buffer

zones) is likely insufficient separation between application blocks for this permit condition. The required buffer zone of 25 feet may not provide adequate protection if multiple application blocks within a single orchard (or adjacent orchards) are fumigated with less than 36-hour separation. CAC staff should consult with DPR before allowing these types of fumigations.

For products containing methyl bromide and chloropicrin, the application is limited to one (1) acre.

### **M. Overlapping Buffer Zones**

If buffer zones for two or more applications overlap within 36 hours from the time the earlier application is complete until the start of the later application, certain restrictions apply based on the type of tarpaulin used (if any). Labels require a minimum of 12 hours to elapse from the time the earlier application(s) is complete until the start of the later application. An application block is the area of a field treated in a 24-hour period.

The following are additional restrictions when application block buffer zones overlap within the first 36 hours:

#### **Scenario 1: All application blocks use TIF tarps.**

TIF tarp conditions:

- a. Combined TIF acreage shall not exceed 60 acres.
- b. Buffer distance for each TIF block shall be based on individual method, application rate, and acres.

#### ***Scenario 1 example:***

Two applications, both blocks use TIF tarps.

Block 1:	Block 2:
TIF	TIF
Broadcast shank	Drip
200 lbs/ac	150 lbs/ac
10 ac	20 ac

#### ***Scenario 1 Buffer zone determination:***

- a. Combined TIF acreage is less than or equal to 60 ac ( $10+20=30$ ).
- b. Individual block buffer zones:
  - i. Block 1 buffer is based on broadcast shank, 200 lbs AI/ac, 10 ac: 56 feet (Table 1).
  - ii. Block 2 buffer is based on drip, 150 lbs AI/ac, 20 ac: 45 feet (Table 4)

#### ***Scenario 2: All application blocks use non-TIF tarps or untarped and use same application method and application rate.***

Non-TIF/untarped conditions:

- a. Combined non-TIF/untarped acreage shall not exceed 40 acres.
- b. Buffer distance shall be based on combined acreage of all non-TIF/untarped blocks.

***Scenario 2 example:***

Two applications, both blocks use non-TIF tarps, same method and rate.

Block 1:	Block 2:
Non-TIF	Non-TIF
Broadcast shank	Broadcast shank
200 lbs/ac	200 lbs/ac
10 ac	20 ac

***Scenario 2 Buffer Zone determination:***

- a. Combined non-TIF/untarped acreage is less than or equal to 40 ac ( $10+20=30$ ).
- b. Block 1 and Block 2 buffers are the same distance based on broadcast shank, 200 lbs/ac,  $10+20=30$  ac: 272 feet (Table 5).

**Scenario 3: All application blocks non-TIF or untarped blocks and blocks use different application methods and/or application rates.**

Non-TIF/untarped conditions:

- a. Combined non-TIF/untarped acreage shall not exceed 40 acres.
- b. Buffer zone distance shall be based on combined acreage of all non-TIF/untarped blocks.
- c. Use highest non-TIF or untarped application rate.
- d. Use buffer table with largest buffer.

***Scenario 3 example:***

Two applications, both blocks use non-TIF tarps, different methods and rates.

Block 1:	Block 2:
Non-TIF	Non-TIF
Broadcast shank	Drip
200 lbs/ac	150 lbs/ac
10 ac	20 ac

***Scenario 3 Buffer zone determination:***

- a. Combined non-TIF/untarped acreage is less than or equal to 40 ac ( $10+20=30$ ).
- b. Block 1 and Block 2 buffers are the same distance based on non-TIF drip, 200 lbs AI/ac,  $10+20=30$  ac: 310 feet (Table 8b).
- c. **NOTE:** Shorter buffer of 272 feet (Table 5) for non-TIF broadcast shank, 200 lbs/ac, 30 ac, does not apply.

- d. DPR consultation would be needed if the Block 1 application rate was >225 lbs AI/ac; this exceeds the application rates in Table 8a.

**Scenario 4: Multiple application blocks, at least one TIF application block, other application blocks individually use non-TIF tarps or untarped, and all application blocks use the same application method and rate.**

Total combined treated acreage shall not exceed 60 acres.

TIF tarp conditions:

- a. Buffer distance for each TIF block shall be based on individual method, application rate, and acres.

Non-TIF/untarped conditions:

- a. Combined non-TIF/untarped acreage shall not exceed 40 acres.
- b. Buffer distance shall be based on combined acreage of all non-TIF/untarped blocks.

***Scenario 4 example:***

Four applications, two blocks use TIF tarps, two blocks use non-TIF tarps, all blocks use same application method and rate

Block 1:	Block 2:	Block 3:	Block 4:
TIF	TIF	Non-TIF	Non-TIF
Broadcast Shank	Broadcast Shank	Broadcast Shank	Broadcast Shank
200 lbs/ac	200 lbs/ac	200 lbs/ac	200 lbs/ac
10 ac	15 ac	20 ac	5 ac

***Scenario 4 Buffer zone determination:***

- a. Combined non-TIF/untarped acreage is less than or equal to 40 ac ( $20+5=25$ ).

Total combined treated acreage is less than or equal to 60 ac ( $10+15+20+5=50$ ).

- b. Block 1 buffer is based on TIF broadcast shank, 200 lbs AI/ac, 10 ac: 56 feet (Table 1).

Block 2 buffer is based on TIF broadcast shank, 200 lbs AI/ac, 15 ac: 69 feet (Table 1).

Block 3 and Block 4 buffers are the same distance, based on non-TIF broadcast shank, 200 lbs AI/ac,  $20+5=25$  ac: 240 feet (Table 5).

**Scenario 5: Multiple application blocks, at least one TIF application block, other application blocks individually use non-TIF tarps or untarped, and blocks use different application methods and/or application rates.**

Total combined treated acreage shall not exceed 60 acres.

TIF tarp conditions:

- a. Buffer distance for each TIF block shall be based on individual method, application rate, and acres.

Non-TIF/untarped conditions:

- a. Combined non-TIF/untarped acreage shall not exceed 40 acres.
- b. Buffer distance shall be based on combined acreage of all non-TIF/untarped blocks.

***Scenario 5 example:***

Four applications, two blocks use TIF tarps, two blocks use non-TIF tarps, applications methods and rates vary among blocks.

Block 1:	Block 2:	Block 3:	Block 4:
TIF	TIF	Non-TIF	Non-TIF
Broadcast Shank	Drip	Broadcast Shank	Drip
200 lbs/ac	175 lbs/ac	225 lbs/ac	150 lbs/ac
10 ac	15 ac	20 ac	5 ac

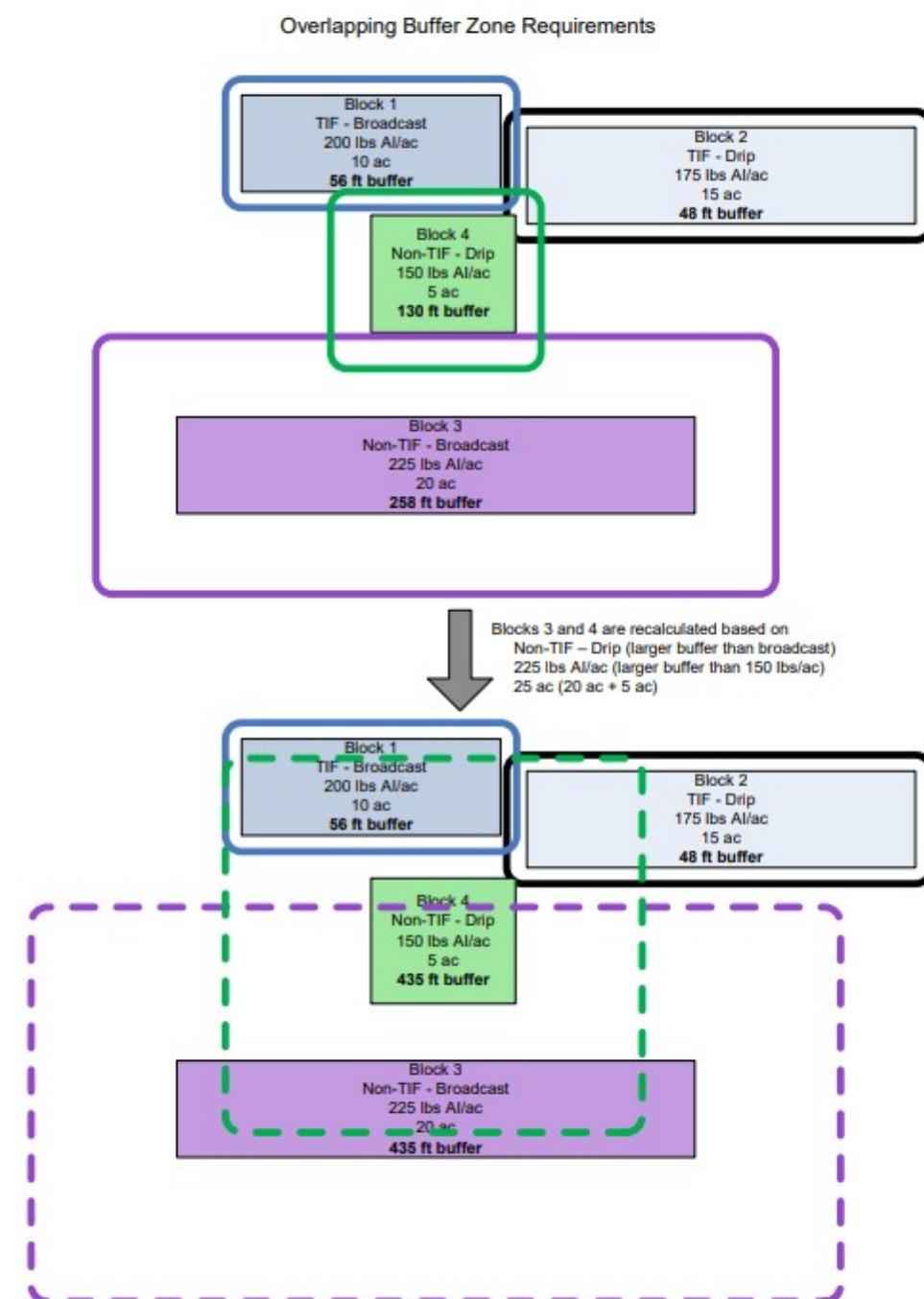
***Scenario 5 Buffer zone determination:***

- a. Combined non-TIF/untarped acreage is less than or equal to 40 ac ( $20+5=25$ ).  
Total combined treated acreage is less than or equal to 60 ac ( $10+15+20+5=50$ ).
- b. Block 1 buffer is based on TIF broadcast shank, 200 lbs AI/ac, 10 ac: 56 feet (Table 1).  
Block 2 buffer is based on TIF drip, 175 lbs AI/ac, 15 ac: 48 feet (Table 4).  
Block 3 and Block 4 buffers are the same distance based on non-TIF drip, 225 lbs AI/ac,  $20+5=25$  ac: 365 feet (Table 8b).

**NOTES:** Shorter buffer of 298 feet (Table 5) for non-TIF broadcast shank, 225 lbs. AI/ac, 25 ac, does not apply.

DPR consultation would be needed if the Block 3 application rate was >225 lbs. AI/ac; this exceeds the application rates in Table 8a.

### Overlapping buffer zones (continued)



## **N. Fumigation Time Restrictions**

Fumigations must start no earlier than one hour after sunrise and must end no later than three hours prior to sunset.

For applications using TIF tarps (including products containing methyl bromide and chloropicrin), these time restrictions do not apply unless the application block is within ¼ mile of a Difficult to Evacuate Site or Other Designated Sensitive Area. (See additional restrictions for Schools, Difficult to Evacuate Sites and Other Designated Sensitive Areas in Section R.)

## **O. Tarp Perforation and Removal**

Tarps that qualify for any buffer zone percentage reduction credit (i.e., listed on [http://www.cdpr.ca.gov/docs/emon/pubs/tac/dpr\\_tarp\\_list.pdf](http://www.cdpr.ca.gov/docs/emon/pubs/tac/dpr_tarp_list.pdf)) must not be perforated until a minimum of 9 days (216 hours) have elapsed after the application is complete, and must not be removed until a minimum of 1 day (24 hours) after perforation. Tarps may be perforated or removed earlier if label-specified adverse weather conditions have compromised the integrity of the tarp.

## **P. Emergency Preparedness and Response Measures**

### **If the certified applicator uses Fumigant Site Monitoring, then:**

1. Monitoring for sensory irritation must be done along the outside perimeter of the buffer zone.
2. At the start of each label-specified monitoring period, monitors must determine the wind direction and speed.
3. The wind directions, speeds, times of determinations and presence (or lack) of sensory irritation or odor must be included in the Post-Application Summary portion of the FMP.
4. Monitoring must be done in at least two different locations along the perimeter, including:
  - a. Downwind of the application block.
  - b. In the direction of all residences, businesses, and bystander areas that trigger the Emergency Preparedness and Response Measures.
  - c. On calm days, monitoring must be done along all buffer zone sides.
5. Monitors must have full olfactory capabilities.
6. If the monitor experiences sensory irritation triggering the emergency response plan, the monitor must notify the county agricultural commissioner.

### **If the certified applicator uses Response Information for Neighbors (notification), then:**

1. The notification must be given in both Spanish and English.

## **Q. Emergency Response Plan**

The county agricultural commissioner must be notified immediately if the emergency response plan is implemented.

## R. Restrictions for Schools, Difficult to Evacuate Sites and Other Designated Sensitive Areas

### Definitions:

1. **Other Designated Sensitive Areas are defined as:** Residential areas, labor camps, apartment complexes, motels, rest areas, churches, designated businesses and any other sensitive area designated by the Commissioner.

### Restrictions:

1. No chloropicrin application is permitted within  $\frac{1}{2}$  mile of a school, unless it will not be in session and no school sponsored activities where children are present take place during the application and for 36 hours following the end of the application.
2. Applications within  $\frac{1}{4}$  mile of a Difficult to Evacuate Site or Other Designated Sensitive Area must be tarped except tree hole fumigations to individual tree and vine replants of less than 1 contiguous acre.
3. The chloropicrin rate shall not exceed 175 pounds AI per acre (lbs AI/ac) when Non-TIF tarps are utilized for sites within  $\frac{1}{4}$  mile of a Difficult to Evacuate Site or Other Designated Sensitive Area.
  - a. The chloropicrin rate shall not exceed 200 pounds AI per acre (lbs AI/ac) when TIF tarps are used if the site is within  $\frac{1}{4}$  mile of a Difficult to Evacuate Site or Other Designated Sensitive Area.
4. All Fumigations (including applications using TIF Tarps) must start no earlier than one hour after sunrise and must end no later than three hours prior to sunset if the site is within  $\frac{1}{4}$  mile of a Difficult to Evacuate Site or Other Designated Sensitive Area.
5. A maximum application block size of 10 acres may be treated if the site is within  $\frac{1}{4}$  mile of a Difficult to Evacuate Site or Other Designated Sensitive Area.
  - a. At least 36 hours must elapse between all fumigations within  $\frac{1}{4}$  mile of the same Difficult to Evacuate Site or Other Designated Sensitive Area. Elapsed time is measured from the time the earlier application is complete until the start of the later application.
6. The following minimum buffer zones shall apply to all to all Difficult to Evacuate Site and Other Designated Sensitive Area:
  - a. **TIF Tarp:** Minimum 60 feet buffer distance to the Difficult to Evacuate Site or Other Designated Sensitive Area.
  - b. **Non-TIF Tarp & Tree Hole Fumigations:** Minimum 100 feet buffer distance to the Difficult to Evacuate Site or Other Designated Sensitive Area.
7. In addition to any site monitoring or emergency preparedness and response measures required by the label and these permit conditions, the **site monitoring described below**

**will be required for all chloropicrin applications made within ½ mile of a Difficult to Evacuate Site or Other Designated Sensitive Area.**

- a. This additional monitoring for sensory irritation shall be conducted every two (2) hours for a minimum of twelve (12) hours and begin at the completion of the application.
  - i. The monitoring that may be required by the label and these permit condition continuing for 36 hours after the application is complete would still be required if the certified applicator chose the Fumigant Site Monitoring option for their Emergency Preparedness and Response Measures.
- b. Monitoring must be conducted by a certified applicator or someone under his/her supervision.
- c. Monitoring, for sensory irritation, must take place in all areas along the outside perimeter of the buffer zone.
- d. The wind directions, speeds, times of determinations and presence (or lack) of sensory irritation or odor must be included in the Post-Application Summary portion of the FMP.
- e. Those monitoring must have full olfactory capabilities.
- f. If at any time the person(s) monitoring the air concentrations experience sensory irritation, then the emergency response plan stated in the FMP must be immediately implemented.
- g. If those monitoring experience sensory irritation triggering the emergency response plan, the certified applicator overseeing the monitoring must immediately notify the county agricultural commissioner.

**S. Buffer Zone Tables for Inland Counties including Kern County**

**Table 1.** Chloropicrin buffer zone distances (feet) for TIF broadcast shank injection fumigations in Coastal and Inland counties. Round up to the nearest rate and block size, where applicable.



		Application Block Size (acres)																		
		1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	
Broadcast Equivalent Application Rate (lbs AI/acre)	<b>100</b>	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25		
	<b>105</b>	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	40	
	<b>110</b>	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	54	62	
	<b>115</b>	25	25	25	25	25	25	25	25	25	25	25	25	25	25	28	38	58	67	
	<b>120</b>	25	25	25	25	25	25	25	25	25	25	25	25	25	25	38	50	62	72	
	<b>125</b>	25	25	25	25	25	25	25	25	25	25	25	25	25	31	44	57	75	84	
	<b>130</b>	25	25	25	25	25	25	25	25	25	25	25	25	34	38	50	64	88	96	
	<b>135</b>	25	25	25	25	25	25	25	25	25	25	25	25	41	45	57	72	92	101	
	<b>140</b>	25	25	25	25	25	25	25	25	25	25	25	30	48	52	64	80	96	106	
	<b>145</b>	25	25	25	25	25	25	25	25	25	25	25	40	54	64	70	88	110	120	
	<b>150</b>	25	25	25	25	25	25	25	25	25	25	28	48	59	71	80	99	119	130	
	<b>155</b>	25	25	25	25	25	25	25	25	25	25	38	56	64	78	90	110	128	140	
	<b>160</b>	25	25	25	25	25	25	25	25	25	25	43	61	71	85	97	113	132	149	
	<b>165</b>	25	25	25	25	25	25	25	25	25	25	48	66	78	92	104	116	136	158	
	<b>170</b>	25	25	25	25	25	25	25	25	25	25	51	69	85	98	111	124	144	164	
	<b>175</b>	25	25	25	25	25	25	25	25	25	25	26	54	72	92	104	118	132	152	170
	<b>180</b>	25	25	25	25	25	25	25	25	25	25	27	56	74	95	107	121	136	156	175
	<b>185</b>	25	25	25	25	25	25	25	25	25	25	28	57	76	97	110	125	140	161	180
	<b>190</b>	25	25	25	25	25	25	25	25	25	25	28	59	78	100	113	128	143	165	184
	<b>195</b>	25	25	25	25	25	25	25	25	25	26	29	60	80	102	116	132	147	169	190
	<b>200</b>	25	25	25	25	25	25	25	25	26	30	62	82	105	119	135	151	174	194	
	<b>205</b>	25	25	25	25	25	25	25	25	27	30	63	84	108	122	138	155	178	199	
	<b>210</b>	25	25	25	25	25	25	25	25	27	31	65	86	110	125	142	158	182	204	
	<b>215</b>	25	25	25	25	25	25	25	25	28	32	66	88	113	128	145	162	187	209	
	<b>220</b>	25	25	25	25	25	25	25	25	29	33	68	90	116	131	148	166	191	214	
	<b>225</b>	25	25	25	25	25	25	25	25	29	34	70	92	118	134	152	170	196	218	
	<b>230</b>	25	25	25	25	25	25	25	26	30	34	71	95	121	137	155	174	200	224	
	<b>235</b>	25	25	25	25	25	25	25	26	31	35	72	97	124	140	158	177	204	228	
	<b>240</b>	25	25	25	25	25	25	25	27	31	36	74	99	126	143	162	181	208	233	
	<b>245</b>	25	25	25	25	25	25	25	28	32	36	76	101	129	146	165	185	213	238	
	<b>250</b>	25	25	25	25	25	25	25	28	32	37	77	103	132	148	168	188	217	243	
	<b>255</b>	25	25	25	25	25	25	25	28	33	38	79	105	134	152	172	192	222	248	
	<b>260</b>	25	25	25	25	25	25	25	29	34	39	80	107	137	154	175	196	226	252	
	<b>265</b>	25	25	25	25	25	25	25	30	34	39	82	109	139	158	179	200	230	258	

#### S. Buffer Zone Tables for Inland Counties including Kern County (*Continued*)

**Table 3.** Chloropicrin buffer zone distances (feet) for TIF strip deep ( $\geq 18$  inches) injection fumigations in Coastal and Inland counties. (*TIF strip shallow injection fumigations are prohibited.*) Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)																	
		1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60
Broadcast Equivalent Application Rate (lbs AI/acre)	<b>75</b>	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	<b>80</b>	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	27
	<b>85</b>	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	36	48
	<b>90</b>	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	32	46	60
	<b>95</b>	25	25	25	25	25	25	25	25	25	25	25	25	26	32	38	43	57	70
	<b>100</b>	25	25	25	25	25	25	25	25	25	25	25	26	35	44	49	54	68	81
	<b>105</b>	25	25	25	25	25	25	25	25	25	25	25	32	44	56	61	66	79	92
	<b>110</b>	25	25	25	25	25	25	25	25	25	25	26	40	52	63	68	74	87	101
	<b>115</b>	25	25	25	25	25	25	25	25	25	25	32	48	59	70	75	81	96	110
	<b>120</b>	25	25	25	25	25	25	25	25	25	25	37	56	66	76	82	88	104	120
	<b>125</b>	25	25	25	25	25	25	25	25	25	25	42	62	73	84	90	96	112	129
	<b>130</b>	25	25	25	25	25	25	25	25	25	28	47	65	78	91	97	103	121	138
	<b>135</b>	25	25	25	25	25	25	25	25	30	34	52	68	84	98	104	110	130	148
	<b>140</b>	25	25	25	25	25	25	25	28	34	40	56	72	89	106	112	118	138	158
	<b>145</b>	25	25	25	25	25	25	27	33	40	46	62	78	95	113	120	128	148	170
	<b>150</b>	25	25	25	25	25	25	26	32	38	45	52	68	84	102	120	128	138	159
	<b>155</b>	25	25	25	25	25	25	30	37	44	50	57	73	89	108	126	137	147	170
	<b>160</b>	25	25	25	25	25	27	34	41	47	54	61	78	94	113	132	144	156	179
	<b>165</b>	25	25	25	25	30	36	43	49	56	62	80	98	117	136	150	163	188	212
	<b>170</b>	25	25	25	26	32	38	45	51	58	64	83	102	121	140	155	170	196	221
	<b>175</b>	25	25	25	28	34	40	47	53	60	66	86	106	125	144	161	178	204	230
	<b>180</b>	25	25	25	29	35	42	48	55	61	68	88	109	129	148	166	183	210	236
	<b>185</b>	25	25	25	30	36	43	50	56	63	70	91	112	132	152	170	188	216	243
	<b>190</b>	25	25	25	30	37	44	51	58	65	72	93	115	136	156	175	193	222	250
	<b>195</b>	25	25	25	31	38	45	52	59	66	74	96	118	140	160	180	198	227	256
	<b>200</b>	25	25	25	32	39	46	54	61	68	76	98	121	143	164	184	204	233	263
	<b>205</b>	25	25	26	33	40	47	55	62	70	77	101	124	147	169	189	208	239	270
	<b>210</b>	25	25	26	34	41	48	56	64	72	79	103	127	150	173	194	214	245	276
	<b>215</b>	25	25	27	34	42	50	58	65	73	81	106	130	154	177	198	219	251	282
	<b>220</b>	25	25	28	35	43	51	59	67	75	83	108	133	157	181	203	224	256	289
	<b>225</b>	25	25	28	36	44	52	60	68	77	85	110	136	161	185	207	229	262	296
	<b>230</b>	25	25	29	37	45	53	62	70	78	87	113	139	164	189	212	234	268	302
	<b>235</b>	25	25	30	38	46	54	63	72	80	89	116	142	168	193	216	239	274	309
	<b>240</b>	25	25	30	38	47	56	64	73	82	90	118	145	172	198	221	244	280	316
	<b>245</b>	25	25	31	39	48	56	66	74	84	92	120	148	175	202	226	249	286	322
	<b>250</b>	25	25	32	40	48	58	67	76	85	94	123	152	179	206	230	254	292	328
	<b>255</b>	25	25	32	41	50	59	68	78	87	96	125	154	182	210	235	259	297	335
	<b>260</b>	25	25	33	42	50	60	70	79	88	98	128	158	186	214	240	264	303	342
	<b>265</b>	25	25	33	42	52	61	71	80	90	100	130	160	190	218	244	270	309	348

S. Buffer Zone Tables for Inland Counties including Kern County (*Continued*)

**Table 4.** Chloropicrin buffer zone distances (feet) for TIF drip fumigations in Coastal and Inland counties. Round up to the nearest rate and block size, where applicable.



		Application Block Size (acres)															
		1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40
	<b>200</b>	60	60	60	60	61	76	100	107	123	139	173	207	240	272	313	354
	<b>205</b>	60	60	60	60	68	84	100	117	133	149	184	219	251	284	329	374
	<b>210</b>	60	60	60	63	75	92	109	126	143	160	195	230	263	295	345	395
	<b>215</b>	60	60	60	68	82	99	116	132	149	166	203	239	274	309	359	409
	<b>220</b>	60	60	60	73	89	106	122	139	155	171	210	249	286	324	373	422
	<b>225</b>	60	60	61	79	96	113	129	145	161	177	218	258	298	338	387	436
	<b>230</b>	60	60	64	84	104	119	135	151	167	183	225	267	310	352	401	449
	<b>235</b>	60	60	68	89	111	126	142	157	173	189	233	276	321	366	415	463
	<b>240</b>	60	60	71	95	118	133	148	164	179	194	240	286	333	381	429	476
	<b>245</b>	60	60	75	100	125	140	155	170	185	200	248	295	345	395	443	490
	<b>250</b>	60	60	77	103	129	144	159	174	189	204	254	303	355	407	453	499
	<b>255</b>	60	60	79	105	132	147	163	178	193	209	260	311	365	419	463	507
	<b>260</b>	60	60	80	108	136	151	167	182	197	213	266	319	375	431	474	516
	<b>265</b>	60	60	82	111	139	155	170	186	202	217	272	326	385	444	484	524
	<b>270</b>	60	60	84	113	143	159	174	190	206	221	278	334	395	456	494	533
	<b>275</b>	60	60	86	116	146	162	178	194	210	226	284	342	405	468	505	541
	<b>280</b>	60	60	88	119	150	166	182	198	214	230	290	350	415	480	515	550
	<b>285</b>	60	60	89	122	154	171	188	205	222	239	300	361	423	484	526	569
	<b>290</b>	60	60	91	124	158	176	194	212	230	248	310	373	430	488	538	588
	<b>295</b>	60	60	93	127	161	180	199	218	237	256	320	384	438	491	549	606
	<b>300</b>	60	60	95	130	165	185	205	225	245	265	330	395	445	495	560	625
	<b>305</b>	60	64	100	136	172	192	212	233	253	273	341	408	460	512	573	633
	<b>310</b>	60	68	105	142	178	199	220	240	261	282	352	422	475	528	585	642
	<b>315</b>	60	73	110	148	185	206	227	248	269	290	363	435	490	545	598	650
	<b>320</b>	60	75	113	151	189	210	231	252	273	294	367	441	498	554	608	661
	<b>325</b>	60	78	116	155	194	214	235	256	276	297	372	446	505	564	618	671
	<b>330</b>	60	81	120	159	198	218	239	260	280	301	376	452	513	573	628	682
	<b>335</b>	60	83	123	163	202	223	243	263	284	304	381	458	520	582	638	693
	<b>340</b>	60	86	126	166	206	227	247	267	288	308	386	464	528	591	648	704
	<b>345</b>	60	89	129	170	211	231	251	271	291	311	390	469	535	601	658	714
	<b>350</b>	60	91	133	174	215	235	255	275	295	315	395	475	543	610	668	725

#### S. Buffer Zone Tables for Inland Counties including Kern County (*Continued*)

**Table 6b.** Chloropicrin buffer zone distances (feet) for non-TIF tarp bed shank injection fumigations in Inland counties. Maximum application rate allowed by labels is 265 lbs AI/ac. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
Broadcast Equivalent Application Rate (lbs AI/acre)	1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	
	50	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100	
	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100	
	70	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100	
	80	60	60	60	60	60	100	100	100	100	100	100	105	125	140	155	
	90	60	60	60	60	60	100	100	100	100	100	125	155	180	200	220	
	100	60	60	60	60	60	100	100	100	100	120	170	205	240	265	290	
	110	60	60	60	60	60	100	100	100	100	125	215	260	300	335	365	
	120	60	60	60	60	65	100	100	110	125	200	265	320	370	405	440	
	130	60	60	60	70	85	100	120	135	150	165	235	305	365	425	475	525
	140	60	60	65	85	105	125	145	160	180	200	285	360	430	490	550	605
	150	60	60	80	105	130	155	175	200	220	240	330	410	485	555	625	685
	160	60	60	95	125	155	180	205	230	255	275	375	465	550	625	695	765
	170	60	65	110	145	175	205	235	265	290	315	425	525	610	695	770	845
	180	60	75	120	165	200	235	265	295	325	350	470	580	675	765	845	925
	190	60	85	135	180	220	260	295	325	360	385	520	635	735	830	920	1005
	200	60	105	160	210	255	290	330	365	395	425	565	690	800	900	990	1080
	210	60	115	175	225	270	315	355	390	425	460	610	740	860	965	1065	1160
	220	60	120	185	240	290	335	380	420	455	490	655	795	920	1035	1140	1245
	230	60	130	200	255	310	360	405	445	485	525	695	845	980	1100	1215	1325
	240	60	135	210	275	330	380	425	470	515	555	740	895	1040	1170	1290	1405
	250	60	145	225	290	345	400	450	500	545	585	780	945	1095	1235	1365	1485
	260	70	165	245	315	375	435	485	535	585	630	830	1000	1155	1300	1435	1560
	265	90	190	270	340	400	460	515	565	615	660	870	1050	1215	1365	1505	1640

### S. Buffer Zone Tables for Inland Counties including Kern County (*Continued*)

**Table 7b.** Chloropicrin buffer zone distances (feet) for non-TIF tarp strip injection fumigations in Inland counties. Maximum application rate allowed by labels is 265 lbs AI/ac. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
Broadcast Equivalent Application Rate (lbs AI/acre)	1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	
	50	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100	
	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100	
	70	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100	
	80	60	60	60	60	60	100	100	100	100	100	100	105	125	140	155	
	90	60	60	60	60	60	100	100	100	100	100	125	155	180	200	220	
	100	60	60	60	60	60	100	100	100	100	120	170	205	240	265	290	
	110	60	60	60	60	60	100	100	100	100	125	215	260	300	335	365	
	120	60	60	60	60	65	100	100	110	125	200	265	320	370	405	440	
	130	60	60	60	70	85	100	120	135	150	165	235	305	365	425	475	525
	140	60	60	65	85	105	125	145	160	180	200	285	360	430	490	550	605
	150	60	60	80	105	130	155	175	200	220	240	330	410	485	555	625	685
	160	60	60	95	125	155	180	205	230	255	275	375	465	550	625	695	765

170	60	65	110	145	175	205	235	265	290	315	425	525	610	695	770	845
180	60	75	120	165	200	235	265	295	325	350	470	580	675	765	845	925
190	60	85	135	180	220	260	295	325	360	385	520	635	735	830	920	1005
200	60	105	160	210	255	290	330	365	395	425	565	690	800	900	990	1080
210	60	115	175	225	270	315	355	390	425	460	610	740	860	965	1065	1160
220	60	120	185	240	290	335	380	420	455	490	655	795	920	1035	1140	1245
230	60	130	200	255	310	360	405	445	485	525	695	845	980	1100	1215	1325
240	60	135	210	275	330	380	425	470	515	555	740	895	1040	1170	1290	1405
250	60	145	225	290	345	400	450	500	545	585	780	945	1095	1235	1365	1485
260	70	165	245	315	375	435	485	535	585	630	830	1000	1155	1300	1435	1560
265	90	190	270	340	400	460	515	565	615	660	870	1050	1215	1365	1505	1640

### S. Buffer Zone Tables for Inland Counties including Kern County (*Continued*)

**Table 8b.** Chloropicrin buffer zone distances (feet) for non-TIF tarp drip fumigations in Inland counties. Maximum application rate allowed by labels is 225 lbs AI/ac. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40
Broadcast Equivalent Application Rate (lbs AI/acre)	120	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	130	60	60	60	60	60	60	100	100	100	100	100	100	100	100	110	125
	140	60	60	60	60	60	60	100	100	100	100	100	100	110	130	145	170
	150	60	60	60	60	60	60	100	100	100	100	110	130	145	175	200	220
	160	60	60	60	60	60	60	100	100	100	100	120	140	165	190	215	235
	170	60	60	60	60	60	60	100	100	100	100	130	165	190	220	240	265
	180	60	60	60	60	60	70	100	100	105	110	155	190	220	250	275	300
	190	60	60	60	60	70	85	100	110	120	130	175	215	250	280	310	335
	200	60	60	60	75	90	100	115	125	140	150	195	240	275	310	345	375
	210	60	60	65	85	100	115	130	145	155	165	220	265	305	345	375	410
	220	60	60	70	95	110	130	145	160	175	185	245	295	335	375	410	445
	225	60	60	80	105	125	140	160	175	190	205	265	320	365	410	445	480

**Table 9b.** Chloropicrin buffer zone distances (feet) for untarped broadcast shallow (<18 inches) shank injection fumigations in Inland counties. Maximum application rate allowed by labels is 175 lbs AI/ac. Round up to the nearest rate and block size, where applicable.



<b>300</b>	200	325	435	530	615	695	770	840	910	975	1275	1535	1775	2000	2210	2410
<b>310</b>	210	345	455	550	640	720	800	875	945	1015	1325	1595	1845	2080	2300	2505
<b>320</b>	220	360	470	570	665	750	830	905	980	1050	1370	1655	1915	2160	2385	2605
<b>330</b>	235	375	490	595	690	775	860	940	1015	1090	1420	1715	1985	2235	2475	NA
<b>340</b>	245	390	510	615	715	805	890	970	1050	1125	1470	1775	2055	2315	2560	NA
<b>350</b>	255	405	525	635	735	830	920	1005	1085	1160	1515	1830	2120	2395	NA	NA

### S. Buffer Zone Tables for Inland Counties including Kern County (*Continued*)

**Table 11b.** Chloropicrin buffer zone distances (feet) for untarped bed injection fumigations in Inland counties. Maximum application rate allowed by labels is 265 lbs AI/ac. NA indicates that application is not allowed because the buffer zone exceeds 2640 feet (1/2 mile). Round up to the nearest rate and block size, where applicable.

Broadcast Equivalent Application Rate (lbs AI/acre)	Application Block Size (acres)															
	1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40
40	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
50	100	100	100	100	100	100	100	100	100	100	100	100	100	110	130	145
60	100	100	100	100	100	100	100	100	100	100	100	125	160	200	240	280
70	100	100	100	100	100	100	100	100	105	115	165	215	265	310	355	400
80	100	100	100	100	100	110	125	140	155	170	240	305	365	420	475	530
90	100	100	100	100	125	145	170	190	210	225	315	390	460	530	595	655
100	100	100	100	130	155	185	210	235	260	285	385	475	560	640	710	780
110	100	100	115	155	190	225	255	285	310	340	460	565	660	745	830	905
120	100	100	135	185	225	265	300	335	365	395	530	650	755	855	945	1030
130	100	100	155	210	260	300	345	380	415	450	605	735	855	960	1060	1155
140	100	110	180	240	290	340	385	430	470	505	675	820	950	1070	1180	1280
150	100	120	200	265	325	380	430	475	520	565	750	905	1050	1175	1295	1405
160	100	165	240	310	370	425	475	525	570	615	815	985	1140	1280	1415	1540
170	100	195	275	345	410	465	520	575	625	670	880	1065	1230	1385	1530	1665
180	120	220	305	380	445	510	565	620	675	725	950	1145	1325	1490	1645	1795
190	140	245	335	410	480	550	610	665	725	775	1015	1230	1420	1600	1765	1925
200	155	270	360	445	520	585	650	715	770	830	1085	1310	1515	1705	1880	2050
210	175	290	390	475	555	625	695	760	820	880	1150	1390	1605	1810	2000	2180
220	190	315	415	505	585	665	735	805	870	930	1215	1470	1700	1915	2115	2310
230	205	335	440	535	620	700	775	850	915	985	1285	1550	1795	2020	2235	2435
240	225	355	465	565	655	740	815	890	965	1035	1350	1630	1885	2125	2350	2565
250	240	375	490	595	685	775	855	935	1010	1085	1415	1710	1980	2230	2470	NA
260	255	395	515	620	720	810	895	980	1055	1135	1480	1785	2070	2335	2585	NA
265	270	415	540	650	750	845	935	1020	1100	1180	1545	1865	2165	2440	NA	NA

### S. Buffer Zone Tables for Inland Counties including Kern County (*Continued*)

**Table 12.** Chloropicrin buffer zone distances (feet) for untarped drip fumigations in Coastal and Inland counties. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40
Broadcast Equivalent Application Rate (lbs Al/acre)	<b>22</b>	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	<b>27</b>	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
	<b>32</b>	100	100	100	100	100	100	100	100	100	100	100	100	100	100	105	
	<b>38</b>	100	100	100	100	100	100	100	100	100	100	100	100	124	154	187	
	<b>43</b>	100	100	100	100	100	100	100	100	100	100	103	157	187	217	250	
	<b>48</b>	100	100	100	100	100	100	100	100	100	100	146	220	250	281	314	
	<b>54</b>	100	100	100	100	100	100	100	100	124	149	206	264	314	363	410	
	<b>59</b>	100	100	100	100	100	100	100	123	148	173	238	303	359	415	459	
	<b>64</b>	100	100	100	100	100	100	119	145	172	198	270	341	404	468	509	
	<b>70</b>	100	100	100	100	100	121	149	176	204	231	314	396	454	512	561	
	<b>75</b>	100	100	100	100	116	145	174	203	232	261	353	446	510	575	627	
	<b>80</b>	100	100	100	110	138	168	199	230	261	292	393	495	567	638	693	
	<b>86</b>	100	100	100	117	147	180	212	245	278	311	419	528	604	681	739	
	<b>91</b>	100	100	100	125	156	191	226	261	295	330	446	561	642	723	785	
	<b>96</b>	100	100	100	132	165	202	239	276	313	350	472	594	680	766	832	
	<b>102</b>	100	100	105	139	174	213	252	291	330	369	498	627	718	808	878	
	<b>107</b>	100	100	110	147	183	224	265	307	348	389	524	660	755	851	924	
																997	

