

Appendix K

Chloropicrin and Chloropicrin in Combination with Other Products (Field Soil Fumigation) Recommended Permit Conditions

Overview

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. For fumigations of potting soil with chloropicrin, follow conditions in Appendix G: Commodity Fumigation.

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.

In this appendix

This appendix contains the following topics.

Section	Topic	See Page
K.1.	General application information	K-2
	- Notice of intent	K-2
	- Emergency response plan	K-2
	- Tree hole limitations	K-2
	- Overlapping buffer zones	K-3
K.2	Guidance for determining buffer zones for methyl bromide and chloropicrin combinations	K-8

Continued on next page

Chloropicrin and Chloropicrin in Combination with Other Products (Field Soil Fumigation) Recommended Permit Conditions

Section K.1. General Application Information

When requirements differ These conditions are in addition to any requirements found on chloropicrin pesticide product labeling, including California-specific labeling requirements (<https://www.cdpr.ca.gov/chloropicrin.htm>), and requirements found in Title 3, California Code of Regulations. In the event of a conflict between those requirements and these permit conditions, the strictest requirement must be followed.

Notice of intent The notice of intent (NOI) shall be submitted at least 48 hours before the fumigation begins and include the time fumigation is scheduled to begin.

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

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

- 50 holes per acre in no more than 40 acres
- 75 holes per acre in no more than 10 acres
- 100 holes per acre in no more than 5 acres
- 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, DPR recommends the following spacing between fumigated tree holes:

- At least 30 feet for 50 holes per acre in no more than 40 acres
- At least 25 feet for 75 holes per acre in no more than 10 acres
- At least 20 feet for 100 holes per acre in no more than 5 acres

- At least 15 feet for 200 holes in no more than 1 acre

This recommended minimum spacing does not need to be achieved for each tree hole but should 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 1 acre.

**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.

TIF conditions:

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

Scenario 1 example:

Coastal county, two applications, both blocks use TIF.

<p><u>Block 1:</u></p> <ul style="list-style-type: none"> • TIF • Broadcast shank • 200 lbs. AI/ac • 10 ac 	<p><u>Block 2:</u></p> <ul style="list-style-type: none"> • TIF • Drip • 150 lbs. AI/ac • 20 ac
--	---

Buffer zone determination:

Combined TIF acreage is less than 60 ac (10+20=30).

Block 1 buffer is based on broadcast shank, 200 lbs. AI/ac, 10 ac:56 feet (Table1)

Block 2 buffer is based on drip, 150 lbs. AI/ac, 20 ac: 45 feet (Table 4)

**Overlapping
buffer zones
(continued)**

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

Non-TIF/untarped conditions:

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

Scenario 2 example:

Coastal county, two applications, both blocks use non-TIF, same method and rate.

<u>Block 1:</u> <ul style="list-style-type: none">• Non-TIF• Broadcast shank• 200 lbs AI/ac• 10 ac	<u>Block 2:</u> <ul style="list-style-type: none">• Non-TIF• Broadcast shank• 200 lbs AI/ac• 20 ac
---	---

Buffer Zone determination:

Combined non-TIF/untarped acreage is less than 40 ac (10+20=30).

Block 1 and Block 2 buffers are the same distance based on broadcast shank, 200 lbs. AI/ac, 10+20=30 ac: 272 feet (Table 5).

**Overlapping
buffer zones
(continued)**

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

Non-TIF/untarped conditions:

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

Alternative: consult with DPR.

Scenario 3 example:

Coastal county, two applications, both blocks use non-TIF, different methods and rates.

<u>Block 1:</u> <ul style="list-style-type: none">• Non-TIF• Broadcast shank• 200 lbs. AI/ac• 10 ac	<u>Block 2:</u> <ul style="list-style-type: none">• Non-TIF• Drip• 150 lbs. AI/ac• 20 ac
--	---

Buffer zone determination:

Combined non-TIF/untarped acreage is less than 40 ac (10+20=30).

Block 1 and Block 2 buffers are the same distance based on non-TIF drip, 200 lbs. AI/ac, 10+20=30 ac: 375 feet (Table 8a).

NOTES: Shorter buffer of 272 feet (Table 5) for non-TIF broadcast shank, 200 lbs. AI/ac, 30 ac, does not apply.

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

Overlapping buffer zones (continued)

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

TIF conditions:

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

Non-TIF/untarped conditions:

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

Scenario 4 example:

Coastal county, four applications, two blocks use TIF, two blocks use non-TIF, all blocks use same application method and rate.

<u>Block 1:</u> <ul style="list-style-type: none">• TIF• Broadcast shank• 200 lbs. AI/ac• 10 ac	<u>Block 2:</u> <ul style="list-style-type: none">• TIF• Broadcast shank• 200 lbs. AI/ac• 15 ac	<u>Block 3:</u> <ul style="list-style-type: none">• Non-TIF• Broadcast shank• 200 lbs. AI/ac• 20 ac	<u>Block 4:</u> <ul style="list-style-type: none">• Non-TIF• Broadcast shank• 200 lbs. AI/ac• 5 ac
--	--	--	---

Buffer zone determination:

Combined TIF acreage is less than 60 ac (10+15=25).

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

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).

Overlapping
buffer zones
(continued)

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

TIF conditions:

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

Non-TIF/untarped conditions:

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

Scenario 5 example:

Coastal county, four applications, two blocks use TIF, two blocks use non-TIF, applications methods and rates vary among blocks.

<u>Block 1:</u> • TIF • Broadcast shank • 200 lbs. AI/ac • 10 ac	<u>Block 2:</u> • TIF • Drip • 175 lbs. AI/ac • 15 ac	<u>Block 3:</u> • Non-TIF • Broadcast shank • 225 lbs. AI/ac • 20 ac	<u>Block 4:</u> • Non-TIF • Drip • 150 lbs. AI/ac • 5 ac
--	---	--	--

Buffer zone determination:

Combined TIF acreage is less than 60 ac (10+15=25).

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

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).

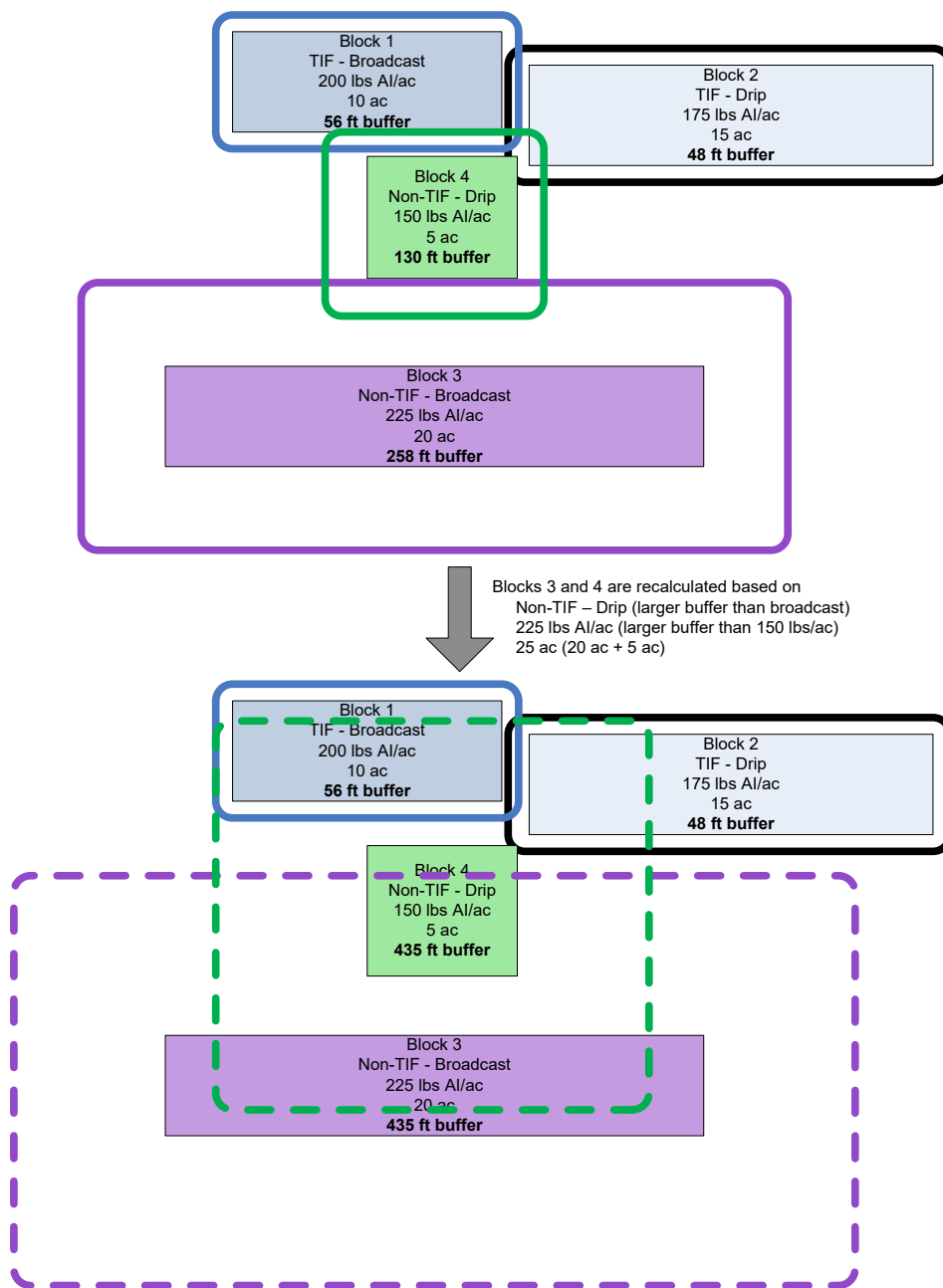
Block 3 and Block 4 buffers are the same distance based on non-TIF drip, 225 lbs. AI/ac, 20+5=25 ac: 435 feet (Table 8a).

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)**

Overlapping Buffer Zone Requirements



Continued on next page

Chloropicrin and Chloropicrin in Combination with Other Products (Field Soil Fumigation) Recommended Permit Conditions, Continued

Section K.2.

Guidance for Determining Buffer Zones for methyl bromide and chloropicrin combinations

Buffer zones for methyl bromide and chloropicrin combinations

For products containing methyl bromide and chloropicrin, determine the methyl bromide and chloropicrin buffer zones separately.

- 1.** Determine the chloropicrin buffer zone according to CA labeling (<https://www.cdpr.ca.gov/chloropicrin.htm>):
- 2.** Determine the methyl bromide outer and inner buffer zones distances following the procedure described in Appendix M, *Methyl Bromide Field Fumigation Recommended Permit Conditions*.
- 3.** These determinations will result in three 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 apply to the methyl bromide outer buffer zone.

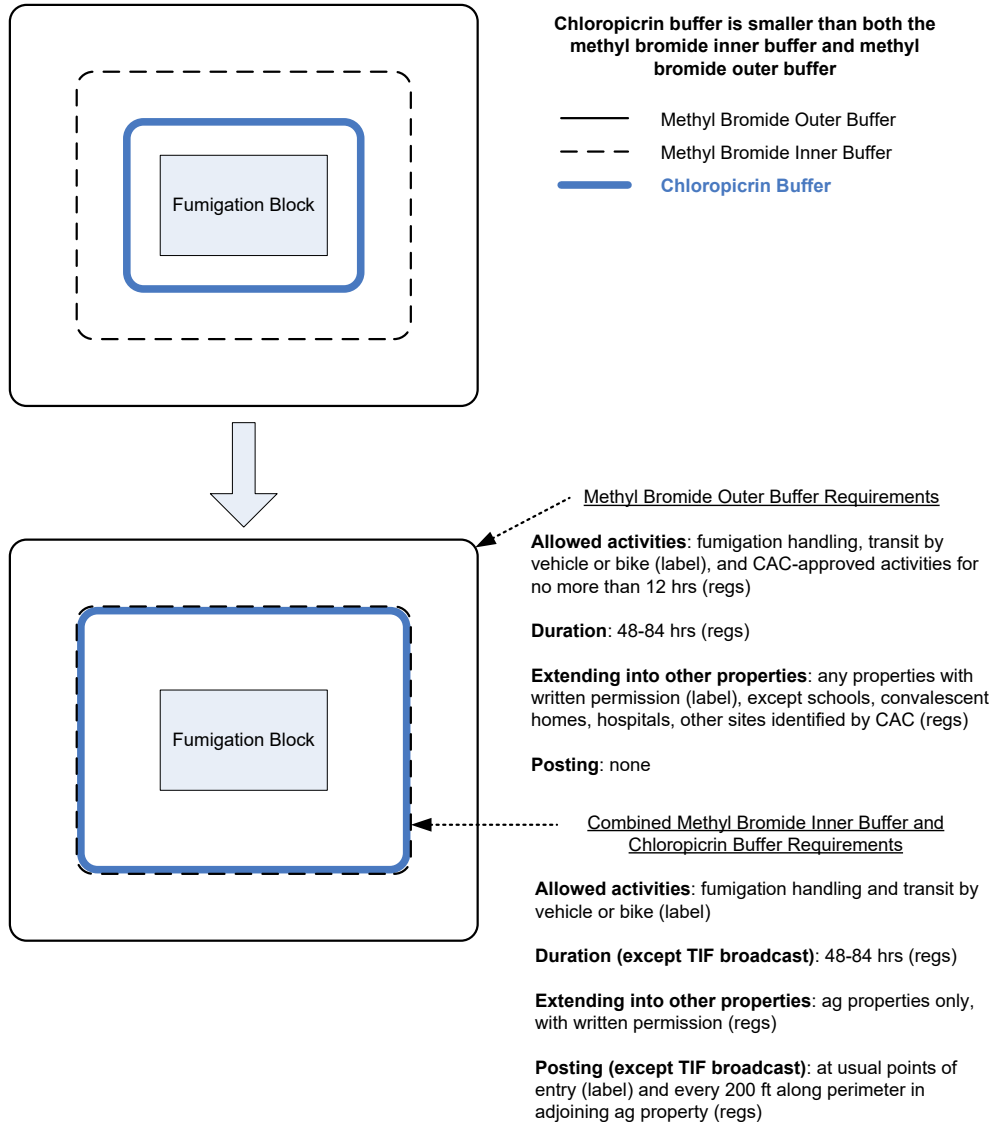
For clarity, the combined requirements of the labels and regulations are described on the following page.

Continued on next page

Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Recommended Permit Conditions, Continued

Buffer zones for methyl bromide and chloropicrin combinations (continued)

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



Continued on next page

Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Recommended Permit Conditions, Continued

Buffer zones for methyl bromide and chloropicrin combinations (continued)

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 (same as Scenario 1).

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 (same as Scenario 1).

All the methyl bromide outer buffer zone restrictions apply to the methyl bromide outer buffer zone.

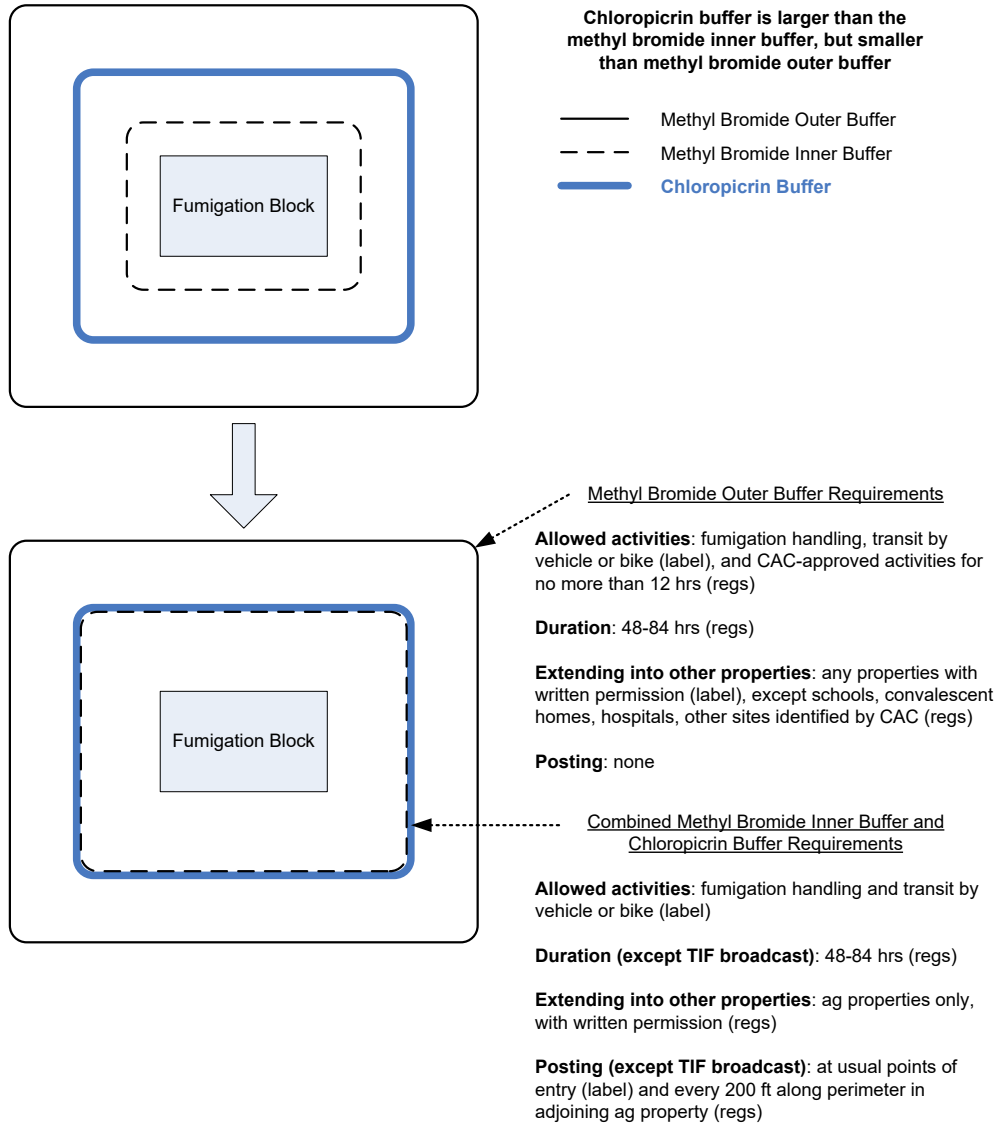
For clarity, the combined requirements of the labels and regulations are described on the following page.

Continued on next page

Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Recommended Permit Conditions, Continued

Buffer zones for methyl bromide and chloropicrin combinations (continued)

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



Continued on next page

Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Recommended Permit Conditions, Continued

Buffer zones for methyl bromide and chloropicrin combinations (continued)

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 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.

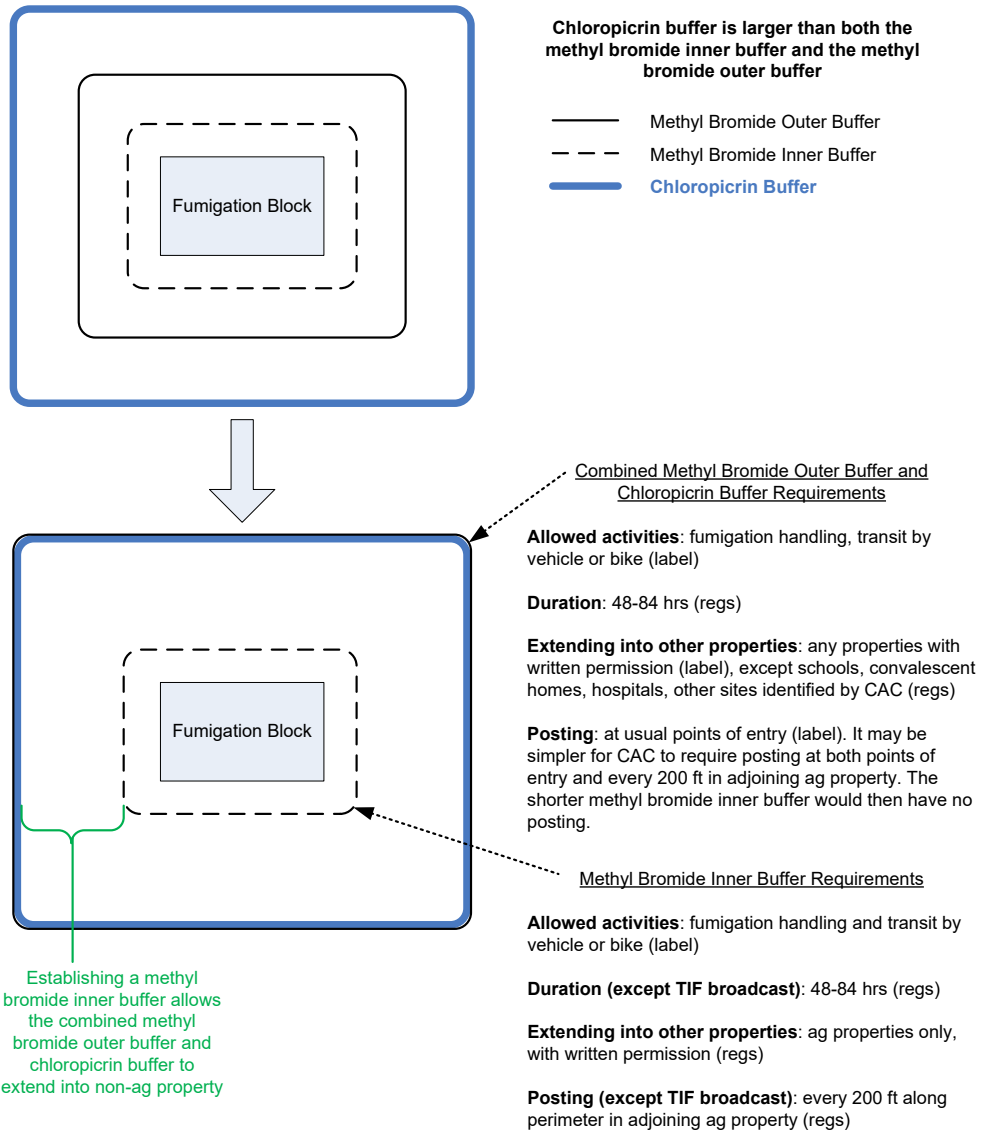
For clarity, the combined requirements of the labels and regulation are described on the following page.

Continued on next page

Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Recommended Permit Conditions, Continued

Buffer zones for methyl bromide and chloropicrin combinations (continued)

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



Continued on next page

Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Recommended Permit Conditions, Continued

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

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.
