

Appendix N

Volatile Organic Compounds

Overview

Introduction This appendix contains information on Volatile Organic Compounds (VOCs).

In this Appendix This Appendix contains the following topics.

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FEDERAL NON-ATTAINMENT AREAS
AFFECTED BY CALIFORNIA REGULATIONS
TO REDUCE EMISSIONS
FROM
FUMIGANT PESTICIDES

January 2008



* Sacramento Metro NAA

- all of Sacramento and Yolo counties, and parts of
El Dorado, Placer, Solano and Sutter counties.

* San Joaquin Valley NAA

- all of San Joaquin, Stanislaus, Merced, Madera,
Fresno, Kings, and Tulare counties,
and the valley portion of Kern County.

* South Coast NAA

- all of Orange County, and parts of Los Angeles,
Riverside and San Bernardino counties.

* Southeast Desert NAA

- the desert portions of Riverside (Coachella Valley),
Los Angeles (Lancaster/Palm dale),
and San Bernardino (Barstow) counties.

* Ventura NAA - all of Ventura County.

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California Department of Pesticide Regulation
METHYL BROMIDE
Field Fumigation Methods Allowed, by Geographic Area

Note: Restrictions on fumigation methods are in effect May 1 through October 31, in certain geographic areas (see table). From November through April, any label method may be used, anywhere in California. (Regulations and permit conditions that already restricted the use of fumigants still apply.)

Methyl Bromide			Methods Allowed From May 1 Through October 31, by Geographic Area		
Method name	Regulation Section (3CCR)	Field Fumigation Method Code	NAA's: Sacramento Metro & South Coast	NAA's: Southeast Desert, San Joaquin Valley & Ventura	Outside NAA's
	6447.3				
Nontarpaulin/Shallow/Bed [†]	(a)(1)	1101			
Nontarpaulin/Deep/Broadcast	(a)(2)	1102	√		√
Tarpaulin/Shallow/Broadcast - Nobel Plow	(a)(3)	1103	√	√	√
Tarpaulin/Shallow/Broadcast - Nobel Plow – Strip	(a)(3)	1104	√		√
Tarpaulin/Shallow/Broadcast - Closing shoe and compaction roller [†]	(a)(3)	1105			
Tarpaulin/Shallow/Bed	(a)(4)	1106	√		√
Tarpaulin/Deep/Broadcast	(a)(5)	1107	√	√	√
Tarpaulin/Deep/Broadcast - Strip	(a)(5)	1108	√		√
Drip System - Hot Gas	(a)(6)	1109	√		√
Tarpaulin/Shallow/Broadcast – Nobel Plow–with tarp eligible for 60% credit	(a)(3)	1143	√	√	√
Tarpaulin/Shallow/Broadcast – Nobel Plow – Strip –with tarp eligible for 60% credit	(a)(3)	1144	√		√
Tarpaulin/Shallow/Broadcast – Closing shoes and compaction roller–with tarp eligible for 60% credit	(a)(3)	1145	√		√
Tarpaulin/Shallow/Bed –with tarp eligible for 60% credit	(a)(4)	1146	√		√
Tarpaulin/Deep/Broadcast –with tarp eligible for 60% credit	(a)(5)	1147	√	√	√
Tarpaulin/Deep/Broadcast – Strip with tarp eligible for 60% credit	(a)(5)	1148	√		√
Drip System - Hot Gas –with tarp eligible for 60% credit	(a)(6)	1149	√		√
Other label methods		1190			√

Abbreviations: NAA: nonattainment area; 3CCR: California Code of Regulations, Title 3

For more information, including a map of the NAAs, go to www.cdpr.ca.gov, click on “A-Z Index,” then “VOC regulations.”

[†] Method is no longer allowed.

California Department of Pesticide Regulation
CHLOROPICRIN
Field Fumigation Methods Allowed, by Geographic Area

Note: Restrictions on fumigation methods are in effect May 1 through October 31, in certain geographic areas (see table). From November through April, any label method may be used, anywhere in California. (Regulations and permit conditions that already restricted the use of fumigants still apply.)

Chloropicrin			Methods Allowed From May 1 Through October 31, by Geographic Area		
Method name	Regulation Section (3CCR)	Field Fumigation Method Code	NAAAs: Sacramento Metro & South Coast	NAAAs: Southeast Desert, San Joaquin Valley & Ventura	Outside NAAAs
CHLOROPICRIN WITH METHYL BROMIDE	6447.3				
Nontarpaulin/Shallow/Bed	(a)(1)	1101	√		√
Nontarpaulin/Deep/Broadcast	(a)(2)	1102	√		√
Tarpaulin/Shallow/Broadcast - Nobel Plow	(a)(3)	1103	√	√	√
Tarpaulin/Shallow/Broadcast - Nobel Plow - Strip	(a)(3)	1104	√		√
Tarpaulin/Shallow/Broadcast - Closing shoe and compaction roller	(a)(3)	1105	√		√
Tarpaulin/Shallow/Bed	(a)(4)	1106	√		√
Tarpaulin/Deep/Broadcast	(a)(5)	1107	√	√	√
Tarpaulin/Deep/Broadcast - Strip	(a)(5)	1108	√		√
Drip System - Hot Gas	(a)(6)	1109	√		√
Tarpaulin/Shallow/Broadcast – Nobel Plow–with tarp eligible for 60% credit	(a)(3)	1143	√	√	√
Tarpaulin/Shallow/Broadcast – Nobel Plow – Strip –with tarp eligible for 60% credit	(a)(3)	1144	√		√
Tarpaulin/Shallow/Broadcast – Closing shoes and compaction roller–with tarp eligible for 60% credit	(a)(3)	1145	√		√
Tarpaulin/Shallow/Bed –with tarp eligible for 60% credit	(a)(4)	1146	√		√
Tarpaulin/Deep/Broadcast –with tarp eligible for 60% credit	(a)(5)	1147	√	√	√
Tarpaulin/Deep/Broadcast – Strip with tarp eligible for 60% credit	(a)(5)	1148	√		√
Drip System - Hot Gas –with tarp eligible for 60% credit	(a)(6)	1149	√		√
Other label method		1190			√

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Chloropicrin			Methods Allowed From May 1 Through October 31, by Geographic Area		
Method name	Regulation Section (3CCR)	Field Fumigation Method Code	NAA's: Sacramento Metro & South Coast	NAA's: Southeast Desert, San Joaquin Valley & Ventura	Outside NAA's
CHLOROPICRIN WITH 1,3-DICHLOROPROPENE	6448.1				
Nontarpaulin/Shallow/Broadcast or Bed	(d)(1)	1201	√		√
Tarpaulin/Shallow/Broadcast	(d)(2)	1202	√		√
Tarpaulin/Shallow/Bed	(d)(2)	1203	√		√
Nontarpaulin/Shallow/Broadcast or Bed/Three water treatment	(d)(3)	1204	√	√	√
Tarpaulin/Shallow/Bed/Three Water Treatments	(d)(4)	1205	√	√	√
Nontarpaulin/Deep/Broadcast or Bed	(d)(5)	1206	√		√
Tarpaulin/Deep/Broadcast	(d)(6)	1207	√	√	√
Tarpaulin/Deep/Bed [†]	(d)(6)	1208			
Chemigation (Drip System)/Tarpaulin	(d)(7)	1209	√	√	√
Nontarpaulin/Deep/Strip	(d)(5)	1210	√	√	√
Nontarpaulin/Deep/GPS targeted	(d)(5)	1211	√	√	√
Tarpaulin/Shallow/Broadcast – with tarp eligible for 60% credit	(d)(2)	1242	√	√	√
Tarpaulin/Shallow/Bed -- with tarp eligible for 60% credit	(d)(2)	1243	√		√
Tarpaulin/Shallow/Bed/Three Water Treatments – with tarp eligible for 60%	(d)(4)	1245	√	√	√
Tarpaulin/Deep/Broadcast – with tarp eligible for 60% credit	(d)(6)	1247	√	√	√
Tarpaulin/Deep/Bed – with tarp eligible for 60% credit [†]	(d)(6)	1248			
Tarpaulin/Deep/Broadcast-strip – with tarp eligible for 60% credit	(d)(6)	1249	√	√	√
Chemigation (Drip System)/Tarpaulin - with tarp eligible for 60% credit	(d)(7)	1259	√	√	√
Other label methods		1290			√
CHLOROPICRIN ONLY	6447.3				
Nontarpaulin/Shallow/Bed [†]	(a)(1)	1101			
Nontarpaulin/Deep/Broadcast	(a)(2)	1102	√		√
Tarpaulin/Shallow/Broadcast - Nobel Plow	(a)(3)	1103	√	√	√
Tarpaulin/Shallow/Broadcast - Nobel Plow - Strip	(a)(3)	1104	√		√
Tarpaulin/Shallow/Broadcast - Closing shoe and compaction roller [†]	(a)(3)	1105			
Tarpaulin/Shallow/Bed	(a)(4)	1106	√		√

[†] Method is no longer allowed.

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Tarpaulin/Deep/Broadcast	(a)(5)	1107	√	√	√
Tarpaulin/Deep/Broadcast - Strip	(a)(5)	1108	√		√
Tarpaulin/Shallow/Broadcast – Nobel Plow – with tarp eligible for 60% credit	(a)(3)	1143	√	√	√
Tarpaulin/Shallow/Broadcast – Nobel Plow – Strip – with tarp eligible for 60% credit	(a)(3)	1144	√	√	√
Tarpaulin/Shallow/Broadcast – Closing shoes and compaction roller – with tarp eligible for 60% credit [†]	(a)(3)	1145			
Tarpaulin/Shallow/Bed – with tarp eligible for 60% credit	(a)(4)	1146	√	√	√
Tarpaulin/Deep/Broadcast – with tarp eligible for 60% credit	(a)(5)	1147	√	√	√
Tarpaulin/Deep/Broadcast – Strip – with tarp eligible for 60% credit	(a)(5)	1148	√	√	√
	6448.1				
Nontarpaulin/Shallow/Broadcast or Bed	(d)(1)	1201	√		√
Tarpaulin/Shallow/Broadcast	(d)(2)	1202	√	√	√
Tarpaulin/Shallow/Bed	(d)(2)	1203	√		√
Nontarpaulin/Shallow/Broadcast or Bed/Three water treatment	(d)(3)	1204	√	√	√
Tarpaulin/Shallow/Bed/Three Water Treatments	(d)(4)	1205	√	√	√
Nontarpaulin/Deep/Broadcast or Bed	(d)(5)	1206	√		√
Tarpaulin/Deep/Broadcast	(d)(6)	1207	√	√	√
Tarpaulin/Deep/Bed [†]	(d)(6)	1208			
Chemigation (Drip System)/Tarpaulin	(d)(7)	1209	√	√	√
Nontarpaulin/Deep/Strip	(d)(5)	1210	√	√	√
Nontarpaulin/Deep/GPS targeted	(d)(5)	1211	√	√	√
Tarpaulin/Shallow/Broadcast – with tarp eligible for 60% credit	(d)(2)	1242	√	√	√
Tarpaulin/Shallow/Bed -- with tarp eligible for 60% credit	(d)(2)	1243	√	√	√
Tarpaulin/Shallow/Bed/Three Water Treatments – with tarp eligible for 60%	(d)(4)	1245	√	√	√
Tarpaulin/Deep/Broadcast – with tarp eligible for 60% credit	(d)(6)	1247	√	√	√
Tarpaulin/Deep/Bed – with tarp eligible for 60% credit [†]	(d)(6)	1248			
Tarpaulin/Deep/Broadcast-strip – with tarp eligible for 60% credit	(d)(6)	1249	√	√	√
Chemigation (Drip System)/Tarpaulin - with tarp eligible for 60% credit	(d)(7)	1259	√	√	√
Other label method		1390			√

Abbreviations: NAA: nonattainment area; 3CCR: California Code of Regulations, Title 3

For more information, including a map of the NAAs, go to www.cdpr.ca.gov, click on “A-Z Index,” then “VOC regulations.”

[†] Method is no longer allowed.

*California Department of Pesticide Regulation***1,3-DICHLOROPROPENE (With or Without Chloropicrin)
Field Fumigation Methods Allowed, by Geographic Area**

Note: Restrictions on fumigation methods are in effect May 1 through October 31, in certain geographic areas (see table). From November through April, any label method may be used, anywhere in California. (Regulations and permit conditions that already restricted the use of fumigants still apply.)

1,3-dichloropropene			Methods Allowed From May 1 Through October 31, by Geographic Area		
Method name	Regulation Section (3CCR)	Field Fumigation Method Code	NAA's: Sacramento Metro & South Coast	NAA's: Southeast Desert, San Joaquin Valley & Ventura	Outside NAA's
	6448.1				
Nontarpaulin/Shallow/Broadcast or Bed	(d)(1)	1201	√		√
Tarpaulin/Shallow/Broadcast	(d)(2)	1202	√		√
Tarpaulin/Shallow/Bed	(d)(2)	1203	√		√
Nontarpaulin/Shallow/Broadcast or Bed/Three water treatment	(d)(3)	1204	√	√	√
Tarpaulin/Shallow/Bed/Three Water Treatments	(d)(4)	1205	√	√	√
Nontarpaulin/Deep/Broadcast or Bed	(d)(5)	1206	√	√	√
Tarpaulin/Deep/Broadcast	(d)(6)	1207	√	√	√
Tarpaulin/Deep/Bed [†]	(d)(6)	1208			
Chemigation (Drip System)/Tarpaulin	(d)(7)	1209	√	√	√
Nontarpaulin/Deep/Strip	(d)(5)	1210	√	√	√
Nontarpaulin/Deep/GPS targeted	(d)(5)	1211	√	√	√
Tarpaulin/Shallow/Broadcast – with tarp eligible for 60% credit	(d)(2)	1242	√	√	√
Tarpaulin/Shallow/Bed -- with tarp eligible for 60% credit	(d)(2)	1243	√		√
Tarpaulin/Shallow/Bed/Three Water Treatments – with tarp eligible for 60%	(d)(4)	1245	√	√	√
Tarpaulin/Deep/Broadcast – with tarp eligible for 60% credit	(d)(6)	1247	√	√	√
Tarpaulin/Deep/Bed – with tarp eligible for 60% credit [†]	(d)(6)	1248			
Chemigation (Drip System)/Tarpaulin - with tarp eligible for 60% credit	(d)(7)	1259	√	√	√
Other label method		1290			√

Abbreviations: NAA: nonattainment area; 3CCR: California Code of Regulations, Title 3

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[†] Method is no longer allowed.

California Department of Pesticide Regulation
METAM-SODIUM AND METAM-POTASSIUM
Field Fumigation Methods Allowed, by Geographic Area

Note: Restrictions on fumigation methods are in effect May 1 through October 31, in certain geographic areas (see table). From November through April, any label method may be used, anywhere in California. (Regulations and permit conditions that already restricted the use of fumigants still apply.)

Metam-sodium and metam-potassium			Methods Allowed From May 1 Through October 31, by Geographic Area		
Method name	Regulation Section (3CCR)	Field Fumigation Method Code	NAA's: Sacramento Metro & South Coast	NAA's: Southeast Desert, San Joaquin Valley & Ventura	Outside NAA's
	6450.1				
Daytime applications					
Sprinkler/Broadcast or Bed/One Water Treatment	(d)(1)	1401	√		√
Sprinkler/Broadcast or Bed/Two Water Treatments	(d)(2)	1402	√	√	√
Sprinkler/Broadcast or Bed/Three Water Treatments	(d)(3)	1403	√	√	√
Nontarpaulin/Shallow/Broadcast or Bed/One Water Treatment	(d)(4)	1404	√		√
Nontarpaulin/Shallow/Broadcast or Bed /Two Water Treatments	(d)(5)	1405	√	√	√
Nontarpaulin/Shallow/Broadcast or Bed/Three Water Treatments	(d)(6)	1406	√	√	√
Chemigation (Drip System) Tarpaulin	(d)(7)	1407	√	√	√
Chemigation (Drip System) Nontarpaulin	(d)(7)	1408	√	√	√
Rotary Tiller	(d)(8)	1409	√	√	√
Power Mulcher	(d)(8)	1410	√	√	√
Soil Capping	(d)(8)	1411	√	√	√
Flood*	(d)(9)	1412	√		√
Drench	(d)(12)	1413	√	√	√
Chemigation (Drip System) Tarpaulin -- with tarp eligible for 30%	(d)(7)	1447	√	√	√
Nighttime applications					
Night 1 A.M. Start/Sprinkler/Broadcast or Bed/Two Water Treatments	(d)(2)	1452	√		√
Night 1 A.M. Start/Nontarpaulin/Shallow/Broadcast or Bed/Two Water Treatments	(d)(10)	1455	√	√	√
Night 4 A.M. Start/Sprinkler/Broadcast or Bed/Two Water Treatments	(d)(11)	1472	√	√	√
Other label method		1490			√

*Application may occur during the daytime or nighttime.

Abbreviations: NAA: nonattainment area; 3CCR: California Code of Regulations, Title 3

For more information, including a map of the NAAs, go to www.cdpr.ca.gov, click on "A-Z Index," then "VOC regulations."

California Department of Pesticide Regulation
DAZOMET
Field Fumigation Methods Allowed, by Geographic Area

Note: Restrictions on fumigation methods are in effect May 1 through October 31, in certain geographic areas (see table). From November through April, any label method may be used, anywhere in California. (Regulations and permit conditions that already restricted the use of fumigants still apply.)

dazomet			Methods Allowed From May 1 Through October 31, by Geographic Area		
Method name	Regulation Section (3CCR)	Field Fumigation Method Code	NAA's: Sacramento Metro & South Coast	NAA's: Southeast Desert, San Joaquin Valley & Ventura	Outside NAA's
	6450.2				
Soil incorporation		1501	√	√	√
Surface application - water incorporation		1502	√	√	√
Other label method		1590			√

Abbreviations: NAA: nonattainment area; 3CCR: California Code of Regulations, Title 3

For more information, including a map of the NAAs, go to www.cdpr.ca.gov, click on "A-Z Index," then "VOC regulations."

California Department of Pesticide Regulation
SODIUM TETRATHIOCARBONATE
Field Fumigation Methods Allowed, by Geographic Area

Note: Restrictions on fumigation methods are in effect May 1 through October 31, in certain geographic areas (see table). From November through April, any label method may be used, anywhere in California. (Regulations and permit conditions that already restricted the use of fumigants still apply.)

sodium tetrathiocarbonate			Methods Allowed From May 1 Through October 31, by Geographic Area		
Method name	Regulation Section (3CCR)	Field Fumigation Method Code	NAAAs: Sacramento Metro & South Coast	NAAAs: Southeast Desert, San Joaquin Valley & Ventura	Outside NAAAs
	6451.1				
Chemigation (Drip)		1601	√	√	√
Chemigation (mini-sprinkler)		1602	√	√	√
Chemigation (flood, basin)		1603	√	√	√
Chemigation (furrow, border)		1604	√	√	√
Chemigation (foggers, jets, misters, other)		1605	√	√	√
Other label method		1690			√

Abbreviations: NAA: nonattainment area; 3CCR: California Code of Regulations, Title 3

For more information, including a map of the NAAAs, go to www.cdpr.ca.gov, click on “A-Z Index,” then “VOC regulations.”