

Appendix N

Volatile Organic Compounds

Overview

Introduction	This Appendix contains information on Volatile Organic Compounds (VOCs).
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Table of Contents

Section N.1 Map of Federal Nonattainment Areas (NAAs) Affected by California Regulations to Reduce Volatile Organic Compound (VOC) Emissions from Pesticides ... N-2

Section N.2 Field Fumigation Methods Allowed, by Geographic Area N-3

Table 1. Methyl Bromide..... N-3

Table 2. Chloropicrin N-4

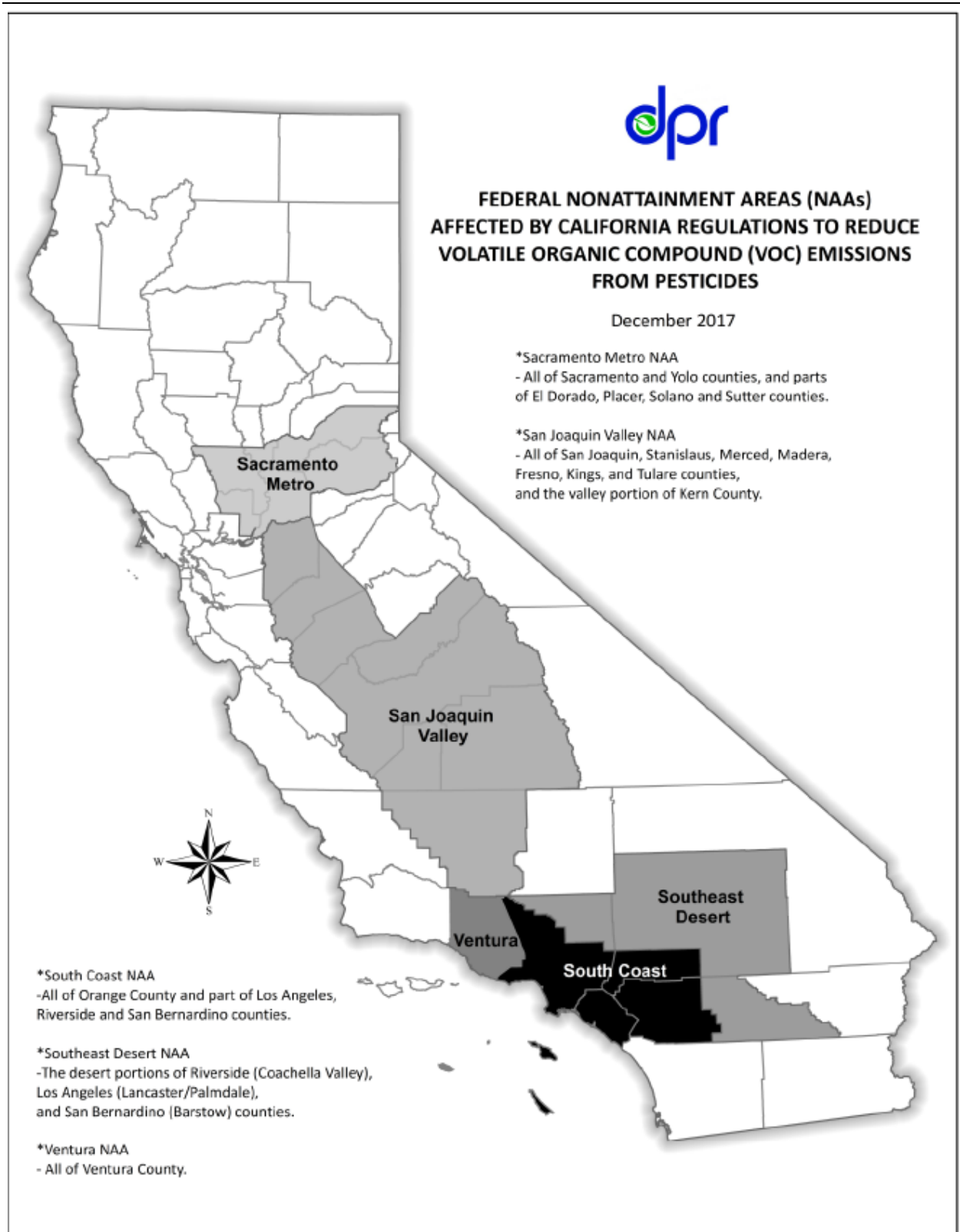
Table 3. 1,3-Dichloropropene (With or Without Chloropicrin)..... N-7

Table 4. Metam-Sodium and Metam-Potassium N-8

Table 5. Dazomet..... N-9

Table 6. Sodium Tetrathiocarbonate N-10

Section N.1



Section N.2

Field Fumigation Methods Allowed, by Geographic Area

Introduction The Field Fumigation Method (FFM) code is required to be reported for:
 1) all applications of 1,3- Dichloropropene statewide, year-round; or
 2) other soil fumigants applied in the five NAAs identified in Section N.1.

Table 1. Methyl Bromide

Field Fumigation Methods Allowed from May 1 Through October 31, by Geographic Area

Note: From November through April, label methods allowed by section 6447.3 may be used anywhere in California. (Regulations and permit conditions that already restricted the use of fumigants still apply.)

Method Name	Regulation Subsection (3 CCR 6447.3)	Field Fumigation Method (FFM) Code	NAAs: Sacramento Metro & South Coast	NAAs: Southeast Desert, San Joaquin Valley & Ventura	Outside NAAs
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 shoes 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			

[†] Method is no longer allowed

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

For a map of the NAAs see Compendium Volume 3 Appendix N *Volatile Organic Compounds*, Section N.1.

Table 2. Chloropicrin

Field Fumigation Methods Allowed from May 1 Through October 31, by Geographic Area

Note: From November through April, applications of chloropicrin, alone, via any label method may be used, anywhere in California. (Regulations and permit conditions that already restricted the use of fumigants still apply.) Applications of chloropicrin in combination with methyl bromide or 1,3-Dichloropropene are limited year-round to the methods allowed by sections 6447.3 or 6448.2 respectively.

Method Name	Regulation Subsection (3 CCR)	Field Fumigation Method (FFM) Code	NAAs: Sacramento Metro & South Coast	NAAs: Southeast Desert, San Joaquin Valley & Ventura	Outside NAAs
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 shoes 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 with methyl bromide		1190			
CHLOROPICRIN WITH 1,3-DICHLOROPROPENE	6448.2				
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	(d)(5)	1206	✓		✓
Tarpaulin/Deep/Broadcast	(d)(6)	1207	✓	✓	✓
Tarpaulin/Deep/Bed [†]	(d)(6)	1208			

PUE Program Standards Compendium Volume 3
Restricted Materials and Permitting

Method Name	Regulation Subsection (3 CCR)	Field Fumigation Method (FFM) Code	NAA: Sacramento Metro & South Coast	NAA: Southeast Desert, San Joaquin Valley & Ventura	Outside NAAs
CHLOROPICRIN WITH 1,3-DICHLOROPROPENE (continued)	6448.2				
Chemigation (Drip System)/Tarpaulin	(d)(7)	1209	✓		✓
Nontarpaulin/Deep/Strip	(d)(5)	1210	✓	✓	✓
Nontarpaulin/Deep/GPS targeted Strip	(d)(5)	1211	✓	✓	✓
Nontarpaulin/24 inches Deep/Broadcast	(d)(5)	1224	✓		✓
Tarpaulin/24 inches Deep/Broadcast	(d)(6)	1225	✓	✓	✓
Nontarpaulin/24 inches Deep/strip	(d)(5)	1226	✓	✓	✓
Nontarpaulin/Deep 24 inches /GPS targeted Strip	(d)(5)	1227	✓	✓	✓
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% credit	(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	✓	✓	✓
40% TIF tarp/18 inches deep/ broadcast	(d)(5)	1250	✓	✓	✓
Chemigation (Drip System)/Tarpaulin – with tarp eligible for 60% credit	(d)(7)	1259	✓	✓	✓
40% TIF tarp/24 inches deep/ broadcast	(d)(5)	1264	✓	✓	✓
Other label method with 1,3-D [†]		1290	Methods not allowed in California year-round		
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 shoes 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	✓		✓
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	✓	✓	✓

PUE Program Standards Compendium Volume 3
Restricted Materials and Permitting

Method Name	Regulation Subsection (3 CCR)	Field Fumigation Method (FFM) Code	NAA: Sacramento Metro & South Coast	NAA: Southeast Desert, San Joaquin Valley & Ventura	Outside NAAs
CHLOROPICRIN ONLY (continued)	6447.3				
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	✓	✓	✓
	6448.2				
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 treatments	(d)(3)	1204	✓	✓	✓
Tarpaulin/Shallow/Bed/Three Water Treatments	(d)(4)	1205	✓	✓	✓
Nontarpaulin/Deep/Broadcast	(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 Strip	(d)(5)	1211	✓	✓	✓
Nontarpaulin/24 inches Deep/Broadcast	(d)(5)	1224	✓		✓
Tarpaulin/24 inches Deep/Broadcast	(d)(6)	1225	✓	✓	✓
Nontarpaulin/24 inches Deep/strip	(d)(5)	1226	✓	✓	✓
Nontarpaulin/Deep 24 inches /GPS targeted Strip	(d)(5)	1227	✓	✓	✓
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% credit	(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	✓	✓	✓
40% TIF tarp/18 inches deep/ broadcast	(d)(5)	1250	✓	✓	✓
Chemigation (Drip System)/Tarpaulin - with tarp eligible for 60% credit	(d)(7)	1259	✓	✓	✓
40% TIF tarp/24 inches deep/ broadcast	(d)(5)	1264	✓	✓	✓
Other label method		1390			✓

[†] Method is no longer allowed

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

For a map of the NAAs see Compendium Volume 3 Appendix N *Volatile Organic Compounds*, Section N.1.

**Table 3. 1,3-Dichloropropene (With or Without Chloropicrin)
Field Fumigation Methods Allowed from May 1 Through October 31, by Geographic Area**
Note: From November through April, label methods allowed by section 6448.2 may be used anywhere in California. (Regulations and permit conditions that already restricted the use of fumigants still apply.)

Method Name	Regulation Subsection (3 CCR 6448.2)	Field Fumigation Method (FFM) Code	NAA: Sacramento Metro & South Coast	NAA: Southeast Desert, San Joaquin Valley & Ventura	Outside NAAs
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	(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 Strip	(d)(5)	1211	✓	✓	✓
Nontarpaulin/24 inches Deep/Broadcast	(d)(5)	1224	✓	✓*	✓
Tarpaulin/24 inches Deep/Broadcast	(d)(6)	1225	✓	✓	✓
Nontarpaulin/24 inches Deep/strip	(d)(5)	1226	✓	✓	✓
Nontarpaulin/Deep 24 inches /GPS targeted Strip	(d)(5)	1227	✓	✓	✓
Nontarpaulin/Tree-Hole	Interim Method	1230	✓	✓	✓
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% credit	(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	✓	✓	✓
40% TIF tarp/18 inches deep/ broadcast	(d)(5)	1250	✓	✓	✓
Chemigation (Drip System)/Tarpaulin - with tarp eligible for 60% credit	(d)(7)	1259	✓	✓	✓
40% TIF tarp/24 inches deep/ broadcast	(d)(5)	1264	✓	✓	✓
Other label method [†]		1290	Methods not allowed in California year-round		

* When used with chloropicrin, high-emission method prohibited in this NAA.

† Method is no longer allowed

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

For a map of the NAAs see Compendium Volume 3 Appendix N *Volatile Organic Compounds*, Section N.1.

Table 4. Metam-Sodium and Metam-Potassium

Field Fumigation Methods Allowed from May 1 Through October 31, by Geographic Area

Note: 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.)

Method Name	Regulation Subsection (3 CCR 6450.1)	Field Fumigation Method (FFM) Code	NAAs: Sacramento Metro & South Coast	NAAs: Southeast Desert, San Joaquin Valley & Ventura	Outside NAAs
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% credit	(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.

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

For a map of the NAAs see Compendium Volume 3 Appendix N *Volatile Organic Compounds*, Section N.1.

Table 5. Dazomet

Field Fumigation Methods Allowed from May 1 Through October 31, by Geographic Area

Note: 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.)

Method Name	Regulation Subsection (3 CCR 6450.2)	Field Fumigation Method (FFM) Code	NAAs: Sacramento Metro & South Coast	NAAs: Southeast Desert, San Joaquin Valley & Ventura	Outside NAAs
Soil incorporation		1501	✓	✓	✓
Surface application – water incorporation		1502	✓	✓	✓
Other label method		1590			✓

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

For a map of the NAAs see Compendium Volume 3 Appendix N *Volatile Organic Compounds*, Section N.1.

Table 6. Sodium Tetrathiocarbonate

Field Fumigation Methods Allowed from May 1 Through October 31, by Geographic Area

Note: 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.)

Method Name	Regulation Subsection (3 CCR 6451.1)	Field Fumigation Method (FFM) Code	NAAs: Sacramento Metro & South Coast	NAAs: Southeast Desert, San Joaquin Valley & Ventura	Outside NAAs
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			✓

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

For a map of the NAAs see Compendium Volume 3 Appendix N *Volatile Organic Compounds*, Section N.1.

Note: There have been no sodium tetrathiocarbonate products with active registration in California since 2012.