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Permit Number_____
Initial

Kern County 1,3-Dichloropropene Pesticides (Field Fumigant) Permit Conditions

These permit conditions apply to the use of pesticide products containing the active ingredient (a.i.) 1,3-Dichloropropene (1,3-D) when applied by either mechanical soil injection or drip application systems to fields used for the production of agricultural crops. They should be used in addition to the provisions in:

- *California Food and Agricultural Code (FAC);*
- *Title 3, California Code of Regulations (3 CCR) including §§ 6448 and 6448.1; and*
- *Product labeling.*

Combination applications of either: (1) a product that includes 1,3-D and another fumigant; or (2) simultaneous application of are subject to all applicable recommended permit conditions for each fumigant ingredient (1,3-D products containing chloropicrin are also subject to the Kern County Chloropicrin Field Fumigation Permit Conditions).

These conditions are in addition to any requirements found on 1,3-D pesticide product labeling and requirements found in Title 3, California Code of Regulations. In the event of a conflict between those requirements and these permit conditions, the most stringent requirements shall be followed. The Kern County Agricultural Commissioner may require more restrictive conditions based on local conditions.

Background on Use Limitations

DPR limits the 1,3-D used annually in a township to a fixed maximum number of adjusted total pounds (ATP).

Adjusted Total Pounds (ATP) is the total quantity of 1,3-D active ingredient applied during an application, adjusted by an Application Factor (AF). The AF is a numerical value, set by DPR in Table 2, of the relative amount of 1,3-D potentially present in the air near treated fields based on geographic location, month, and application method. The higher the AF value, the greater the proportion of the applied 1,3-D that may escape into the air.

The Court in *Vasquez v. CDPDR* (2017) required DPR to temporarily maintain, as an interim measure to address potential cancer risks to bystanders from the use of 1,3-D, the annual township cap of a maximum of 136,000 ATP until additional formal rulemaking is complete. Thus, for all townships in California the use limit is 136,000 ATP per calendar year.

Annual Use Limit for each Township

For all townships in Kern County the use limit is 136,000 ATP per calendar year.

The 1,3-D registrant, Salt Lake Holding, LLC, is a subsidiary of Dow Chemical Company (Dow). Dow or its contractor is responsible for tracking, reporting, and ensuring township use limits are observed. The annual township use limit is fixed and cannot be exceeded (i.e., cannot “bank” and roll over unused allotted ATP for later use).

Conditions for All Application Methods

Notice of intent (NOI)

The notice of intent (NOI) must be submitted at least 48 hours before the fumigation begins. The permittee must provide the CAC with a Dow- or Dow contractor approved (NOI) recommendation before the NOI is accepted and the application is allowed.

Conditions for All Application Methods - *Continued*

Notice of intent (NOI) - *Continued*

In addition to the information required in 3 CCR section 6434, the following information must be included in the NOI:

1. Starting ATP balance available in the township prior to the proposed application.
2. Application depth and type, including 4-digit field fumigation method (FFM) code (Table 2)
3. The total gallons (TG) of the pesticide formulation
4. The pounds per gallon (lbs./gal) of 1,3-D formulation
5. The percent by weight of a.i., expressed as a decimal (0.XX)
6. The total pounds (TP) of 1,3-D a.i. applied
7. The application factor (AF) appropriate for the proposed application from Table 2
8. The adjusted total pounds (ATP) for the proposed application

The NOI will be denied if the proposed application ATP exceeds the available use limit balance in a township.

Maximum Application Rate and Application Block Size

An application cannot exceed the maximum application rate of 332 pounds of 1,3-D active ingredient per broadcast-equivalent acre. The broadcast equivalent application rate accounts for alternating treated and untreated areas when a bed or strip fumigation is conducted.

An application block is a field or a portion of a field treated in a 24-hour period that typically is identified by visible indicators, maps, or other tangible means (3 CCR 6000). The maximum application block size for applications of 1,3-D is 80 acres.

1,3-D Use Reporting

Use reports required by 3 CCR sections 6626(g)(1) requires for all 1,3-D use reports to be submitted electronically in a manner specified by the commissioner. Commissioners should require use reports to be submitted using the system of the Dow contractor that tracks and reports the township cap. 1,3-D applications must include the field fumigation method (FFM) code describing methods of application pursuant to 3 CCR section 6448.1.

Restrictions for Occupied Structures

Applications are prohibited within 100 feet of any occupied structure, measured from the perimeter of the application block to any occupied residences, occupied onsite employee housing, convalescent homes, hospitals, or other similar sites identified by the CAC. If a structure is within 100 feet of the application block, no person shall be present at this structure at any time during the application and during the seven-consecutive day period after the application is complete. This restriction applies even on soils that have not experienced a 1,3-D treatment in the previous two years. No applications will be made within ¼ mile of a school or licensed day care facility that is in session or due to be in session within 36 hours.

Entry into the Application Block

Entry into the application block (including early entry that would otherwise be permitted by the Worker Protection Standard or 3 CCR section 6770) by any person, other than a government official mandated to regulate pesticide use or a properly trained and equipped handler who is performing a handling task permitted by the product labeling, is prohibited from the start of the application until seven (7) days after the application is complete. This prohibition applies to all applications, including all tarp types and untarped applications.

Conditions for All Application *Methods* - *Continued*

Tarp Perforation and Removal

Tarps that do not meet the requirements for any percentage reduction in buffer zone distance mentioned on 1,3-D/chloropicrin labels, such as standard polyethylene tarps, may be perforated and/or removed according to fumigant labeling directions.

Totally impermeable film (TIF) tarps approved by DPR for 1,3-D according to 3 CCR section 6448.1 must not be perforated until a minimum of nine (9) days (216 hours) have elapsed after the application is complete, and must not be removed until a minimum of one (1) day (24 hours) after perforation, unless weather condition exists that necessitates early tarp perforation or removal as specified by the fumigant label.

Use Site Restrictions

Use of 1,3-D in greenhouses and other enclosed areas are prohibited.

Time of Year Restrictions

The Court in Vasquez v. CDPH (2017) required DPR to temporarily maintain, as an interim measure to address potential cancer risks to bystanders from the use of 1,3-D the prohibition on

December applications until formal rulemaking is complete. Thus, all 1,3-D applications are prohibited during December.

Guidance for Regulations

Setback Restrictions

3 CCR section 6448(b) prohibits 1,3-D field soil fumigations within the setback distance from occupied structure that is, will be, or may be occupied at any time during the application and/or setback period, including residences, onsite employee housing, schools, convalescent homes, hospitals, businesses, or other similar sites identified by the CAC.

A setback is also required for any other indoor or outdoor site that will be occupied for at least 72 consecutive hours during and following a 1,3-Dichloropropene application. The commissioner has the discretion to apply the setback to other sites if someone may be at an indoor site or outdoor area for more than 24 consecutive hours during and following the application.

Setback Distance

The minimum setback distance from an occupied structure to the perimeter of a 1,3-D fumigation is 100 feet. The setback distance from an occupied structure or other site varies with the fumigation method, region, season, application rate, and application block size, and is specified in “1,3_Dichloropropene Field Fumigation Requirements, Est. January 1, 2024.”

Example setbacks for overlapping applications

The following is an example for determining setbacks for overlapping applications as specified in 3 CCR section 6448(c).

Field 1 Application Block: Fumigation method 1206 (Table 1, Field Fumigation Requirements document), untarped, 18-inch injection - 10 acres

- 300 lbs./ac application rate
- Fumigation starts on October 31 at 7:00 am and ends at 11:00 am - 200 ft setback (Table 3a)

Field 2 Application Block: Fumigation method 1224 (Table 1, Field Fumigation Requirements document), untarped, 24-inch injection - 5 acres

- 332 lbs./ac application rate
- Fumigation starts on November 2, 8:00 am
- 100 ft setback (Table 5b, Field Fumigation Requirements document)

The applications for Blocks 1 and 2 overlap if they are separated by 300 ft (200 ft + 100 ft) or less AND the fumigation for Block 2 starts on November 1 at 11:00 pm (October 31, 11:00 am + 36 hrs.) or earlier.

If Blocks 1 and 2 overlap, the setback distance from occupied structures for both blocks are 500 ft, determined from:

- 15 acres from Block 1 + Block 2 combined
- 332 lbs./ac from Block 2, higher than Block 1
- Setback from Table 3a, Field Fumigation Requirements document (Block 1), larger than Table 5b, Field Fumigation Requirements document (Block 2)

If all overlapping application blocks use the same fumigation method and the same application rate, such as when a large field is broken up and fumigated sequentially over several days, the setback distance is determined using the combined acreage.

If a NOI for a 1,3-D application scheduled for a later date overlaps with a previous application, the NOI must be denied if the combined acreage exceeds that specified by the setback table or the earlier application cannot accommodate the changes caused by the later application (i.e., the combined acreage cannot comply with the setback distance and maximum acreage specified by the setback table).

Approved Totally Impermeable Film (TIF) tarpaulins

The List of Approved Totally Impermeable Film (TIF) Tarpaulins is available at <https://www.epa.gov/soil-fumigants/tarps#chloropicrin-1-3d>

Soil Moisture Requirements

3 CCR section 6448.2(b) specifies that an application block must have a soil moisture of at least 50 percent of field capacity at a depth of three to nine inches below the surface when the fumigation occurs, except for drip applications. “1,3-Dichloropropene Field Fumigation Requirements, est. January 1, 2024,” provides three options to check soil moisture requirements. Option 1 (Irrigation) is the easiest to implement but should only be used for very dry soils. Option 2 (Feel and Appearance) is most similar to the current soil moisture method but has some subjectivity associated with determining soil moisture level based on an evaluation of soil texture. Option 3 (Soil Moisture Sensor) is more accurate than Option 1 and Option 2 but is the most complex, expensive, and time consuming.

The CAC has discretion to require the use of a specific soil moisture option based on local conditions.

CACs can consult with their DPR Regional Office for soil moisture training information and availability of a soil moisture sensor specified in Option 3.

The CAC recommends recordkeeping for soil moisture conditions until the U.S. Environmental Protection Agency finalizes the draft label changes for 1,3-D products that require fumigation management plans (FMPs), including recordkeeping for soil moisture.

Field Fumigation Methods

3 CCR section 6448.2(d) specifies that 1,3-D fumigations must be made using only the methods specified in “1,3-Dichloropropene Field Fumigation Requirements, est. January 1, 2024,” and it specifies several new methods with new field fumigation method (FFM) codes. Methods not specified are no longer allowed (FFM code 1290).

3 CCR section 6448.2(d) and “1,3-Dichloropropene Field Fumigation Requirements, est. January 1, 2024” also revises the volatile organic compound (VOC) designation of some methods. Some methods have changed from high VOC emission to low-VOC emission or vice versa. This changes which fumigation methods can be used within the San Joaquin Valley, Southeast, Desert, or Ventura ozone nonattainment areas between May 1 and October 31. See Table 1 for details.

Tables

Table 1. 1,3-Dichloropropene (With or Without Chloropicrin) Field Fumigation Methods

Note: Restrictions on fumigation methods are in effect May 1 through October 31 in the San Joaquin Valley (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.)

Field Fumigation Method Name	Regulation Section (3 CCR)	Field Fumigation Method (FFM) Code
	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 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
Nontarpaulin/24 inches Deep/Broadcast	(d)(5)	1224
Tarpaulin/24 inches Deep/Broadcast	(d)(5)	1225
Nontarpaulin/24 inches Deep/strip	(d)(5)	1226
Nontarpaulin/Deep24 inches /GPS targeted	(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%	(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
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

***Method prohibited within the San Joaquin Valley nonattainment area during May 1 – October 31.**

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

Tables – Continued

Table 2. Determining the Application Factor (AF). See 1,3-Dichloropropene Field Fumigations, est. January 1, 2024 document for descriptions and requirements of the field fumigation methods.

Field Fumigation Method (FFM)	FFM Code	Inland*	
		Nov/Jan/Feb	Mar-Oct
Nontarp/shallow/broadcast or bed	1201	2.93	1.40
Tarp/shallow/broadcast	1202	2.93	1.40
Tarp/shallow/bed	1203	2.93	1.40
Nontarp/shallow/broadcast or bed/3 water treatments	1204	2.93	1.40
Tarp/shallow/bed/3 water treatments	1205	2.93	1.40
Nontarp/18 inches deep/broadcast or bed	1206	1.73	0.83
Tarp/18 inches deep/broadcast	1207	1.73	0.83
Tarp/18 inches deep/bed	1208	1.73	0.83
Chemigation (drip system)/tarp	1209	2.15	1.02
Nontarp/18 inches deep/strip	1210	1.73	0.83
Nontarp/18 inches deep/GPS targeted	1211	1.73	0.83
Nontarp/24 inches deep/broadcast	1224	1.00	0.48
Tarp/24 inches deep/broadcast	1225	1.00	0.48
Nontarp/24 inches deep/strip	1226	1.00	0.48
Nontarp/24 inches deep/GPS targeted	1227	1.00	0.48

Totally Impermeable Film (TIF) tarp/shallow/broadcast	1242	0.46	0.21
TIF tarp/shallow/bed	1243	0.76	0.36
TIF tarp/shallow/bed/3 water treatments	1245	0.76	0.36
TIF tarp/deep/broadcast	1247	0.46	0.21
TIF tarp/deep/bed	1248	0.76	0.36
TIF tarp/deep/strip	1249	0.46	0.21
40% TIF tarp/18 inches deep/broadcast	1250	1.16	0.56
Chemigation (drip)/TIF tarp	1259	0.76	0.36
40% TIF tarp/24 inches deep/broadcast	1264	0.71	0.34
Other label method	1290	Prohibited	

*The designations of Inland and Coastal Counties are consistent with the 1,3-D regulations for setbacks and chloropicrin labeling for buffer zones.

Inland Counties: Alameda, Amador, Alpine, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Imperial, Inyo, **Kern**, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Mono, Napa, Nevada, Placer, Plumas, Riverside, Sacramento, San Benito, San Bernardino, San Joaquin, Santa Clara, Shasta, Sierra, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, Yuba.



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