

Recommended Permit Conditions for Using 1,3-Dichloropropene Pesticides (Fumigant)

Overview

**Date
Established**

September 12, 2002

Attachment to

ENF 02-37

Distribution

County Agricultural Commissioners

Referrals

If you have any questions pertaining to this document, please contact your Senior Pesticide Use Specialist Liaison.

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Overview, Continued

Introduction **This Enforcement Letter supersedes Enforcement Letter ENF 01-40.**

These recommended permit conditions apply to the use of pesticides containing the active ingredient (a.i.) *1,3-Dichloropropene* (1,3-D) when applied by both mechanical soil injection and drip application systems. They should be used in addition to the provisions in the *California Food and Agricultural Code* (FAC), *Title 3, California Code of Regulations* (3CCR), and product labeling.

When requirements differ, the most stringent requirements should be followed.

Changes in this Enforcement Letter

The changes include:

- If utilizing the label exemption (100 foot permit condition buffer zone) one year, the labeling-required 300 foot buffer zone shall be utilized for the next three full years (not three growing seasons). (See page 3.)
 - Adding the application factor (AF) of **1.2** when used *Outside the San Joaquin Air Basin in January or December, at a depth of 18 inches or deeper*. (See page 4.)
 - Following the guidelines of the *California Management Plan: 1,3-Dichloropropene* dated January 30, 2002, each township will be allowed to “double” the annual cap to 180,500 pounds of 1,3-D per calendar year using past, unused amounts of 1,3-D. This will allow the township to continue using 1,3-D until the “bank” of the unused cap is depleted. (See page 9.) A copy of the California Management Plan is available at <<http://www.cdpr.ca.gov/docs/dprdocs/methbrom/telone/mgmtplan.pdf>>.
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All Application Methods

Prohibited Uses ALL use of 1,3-D in greenhouses is prohibited.

Notice of Intent (NOI)

- The permittee shall provide a valid recommendation to the county agricultural commissioner (CAC) from a Dow AgroSciences (Dow)-authorized pest control adviser before the NOI is accepted and the application allowed.
- In addition to the information required in 3CCR section 6434, the following information shall be provided on the NOI:
 1. Application depth and type
 2. The total gallons (TG) of the pesticide formulation
 3. The pounds per gallon (lbs./gal) of 1,3-D formulation
 4. The percent by weight of the active ingredient (a.i.), expressed as a decimal (.XX)
 5. The total pounds (TP)
 6. The AF appropriate for your application
 7. The adjusted total pounds (ATP) for the proposed application

Buffer zones

- The buffer zone shall be a minimum of 100 feet measured from the perimeter of the application block to any occupied residences, occupied onsite employee housing, schools, convalescent homes, hospitals, or other similar sites identified by the CAC.
- The buffer zone may extend across roads, highways, or similar rights of way or sites approved by the CAC.
- If utilizing the label exemption (100 foot permit condition buffer zone) one year, the labeling-required 300 foot buffer zone shall be utilized for the next three years. The 100 foot buffer zone shall not be used again until a minimum of **three (3) complete 365 day periods** (1,095 days) have elapsed.

Restricted Entry Interval (REI) for All Application Methods

Entry by any person (including early entry that would otherwise be permitted by the Worker Protection Standard), other than a correctly trained and equipped handler who is performing a handling task permitted on the label, is prohibited from the start of the application until seven (7) days after the application.

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Mechanical Soil Injection

Mechanical Soil Injection Method Users shall comply with the following conditions/requirements when applying 1,3-D by mechanical soil injection.

Determining the Application Factor when Applying by Mechanical Soil Injection The application factor (AF) is a predetermined numerical value based on the month, depth of injection, and geographic location of the specific application. The AF values are used in the formula to determine the adjusted total pounds (ATP) used during the application.

Use the table below to determine the AF:

IF applying the fumigant...	AND applied in the month(s) of...	AND at depths of...	THEN , use the AF of...
Within the San Joaquin Air Basin ¹ →	January or December→	Less than 18 inches→	(Prohibited)
Within the San Joaquin Air Basin→	January or December→	18 inches or deeper→	1.9
Outside the San Joaquin Air Basin→	January or December→	Less than 18 inches→	2.3
Outside the San Joaquin Air Basin→	January or December→	18 inches or deeper→	1.2
Within or Outside the San Joaquin Air Basin→	February through November→	Less than 18 inches→	1.9
Within or Outside the San Joaquin Air Basin→	February through November→	18 inches or deeper→	1.0

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¹The San Joaquin Air Basin consists of Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties.

Mechanical Soil Injection, Continued

Application Rates – Maximum Gallons Per Acre (M gal/A) When Applying By Mechanical Soil Injection

To determine the maximum number of gallons per acre of pesticide formulation (M gal/A):

The gal/A = lbs./A divided by lbs./gal
Divide lbs./A (332) by lbs./gal

- Convert percentage of 1,3-D to a decimal (divide XX% by 100 = .XX);
- To find lbs./gal, multiply lbs./gal x .XX = lbs./gal
- **With or without a tarpaulin**, divide 332 by lbs./gal = gal/A

Because percentages of a.i. differ in various 1,3-D products, the procedures below describe a method to ensure that the township limit is not exceeded. Additionally, this procedure takes into account percentages of 1,3-D active ingredient (a.i.) within different formulated products, allowing more gallons per acre (gal/A) when the product has a lower percentage of 1,3-D or less gal/A if the product has a higher percentage of 1,3-D. The formula follows:

1. The gal/A of pesticide formulation shall be based on the number of pounds per acre (lbs./A) of 1,3-D a.i.
 - a) **With or without a tarpaulin**, 332 lbs./A a.i. shall be the maximum allowable amount of 1,3-D (332 lbs./A a.i.).
 - b) See pesticide labeling for detailed rate recommendations and rate calculation instructions.
2. Use the following information to calculate the gal/A allowed for each application:
 - a) The pounds per gallon (lbs./gal) for the pesticide formulation
 - b) The percentage by weight of 1,3-D (XX%) in the pesticide formulation, expressed as a decimal (.XX)
 - c) The pounds of 1,3-D per gallon (1,3-D/gal) for the pesticide formulation
 - d) The lbs./A for the application (332)

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Mechanical Soil Injection, Continued

Maximum Application Rates when Applying By Mechanical Soil Injection

Use the table below to determine the maximum application rate with or without a tarpaulin. The pesticide product label states that Telone™ II, Telone™ C17, and Telone™ C35 shall be applied by mechanical soil injection only.

NOTE: See product's label for rate ranges. There are presently two variations of Telone™ II in the channels of trade – 94% a.i. and 97.5% a.i. Do not exceed the maximum rate described by permit conditions.

Calculations	Telone $\hat{\text{O}}$ II	Telone $\hat{\text{O}}$ II
(1) Weight/gallon ²	10.1 lbs.	10.1 lbs.
(2) % 1,3-D/gallon ²	94%	97.5%
(3) Amt. 1,3-D/gallon ³ (3) = (1) x (2)) 100	9.49 lbs.	9.85 lbs.
Maximum Application Rates With or Without a Tarpaulin		
(4) Max. lbs. a.i./Acre	332 lbs. a.i./A	332 lbs. a.i./A
(5) Max. gal/Acre (5) = (4)) (3)	34.98 gal/A	33.70 gal/A

Calculations	Telone $\hat{\text{O}}$ C17	Telone $\hat{\text{O}}$ C35
(1) Weight/gallon ²	10.6 lbs.	11.2 lbs.
(2) % 1,3-D/gallon ²	78.3%	61.1%
(3) Amt. 1,3-D/gallon ³ (3) = (1) x (2)) 100	8.29 lbs.	6.84 lbs.
Maximum Application Rates With or Without a Tarpaulin		
(4) Max. lbs. a.i./Acre	332 lbs. a.i./A	332 lbs. a.i./A
(5) Max. gal/Acre (5) = (4)) (3)	40.05 gal/A	48.54 gal/A

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² Information for steps 1 and 2 can be found on the product label.

³ Information for step 3 may or may not be on the product label, but can be calculated from steps 1 and 2.

Maximum lbs. a.i./Acre in step 4 has been predetermined by the Department of Pesticide Regulation.

Maximum gal/A in step 5 must be calculated by the applicator.

Mechanical Soil Injection, Continued

**Calculating the
ATP of 1,3-D
When Applying
By Mechanical
Soil Injection**

The ATP for each application shall be calculated based on the following:

1. The total gallons (TG) of the pesticide formulation
2. The lbs./gal for the pesticide formulation
3. The percent by weight (XX%) of 1,3-D in the pesticide formulation, expressed as a decimal (.XX)
4. The total pounds (TP) of 1,3-D
5. The AF as determined above

The ATP for each application shall be calculated using the following formula:

$TG \times \text{lbs./gal} \times (.XX) \times AF.$

- Convert the 1,3-D percentage by weight (XX%) to a decimal, divide XX% by 100 = .XX
- To find the TP, multiply, $TG \times \text{lbs./gal} \times (.XX) = TP$
- To find the ATP, multiply, $TP \times AF = ATP$

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Drip Application Systems

Drip Application Method

Users shall comply with the following conditions/requirements when applying 1,3-D through drip application systems. This section applies to InLine™ and Telone™ EC.

Application Timing and Corresponding Application Factor

Drip irrigation applications on soil surface or buried drip application shall use an AF of 1.16, regardless of depth.

Application Time and Area

- Generally, applications are allowed statewide during the entire year. However, applications shall not occur in the San Joaquin Air Basin during January and December of each calendar year.
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Calculating the ATP of 1,3-D When Applying By Drip Application Systems

The adjusted total pounds (ATP) for each application shall be calculated based on the following:

1. The total gallons (TG) of the pesticide formulation
2. The pounds per gallon (lbs./gal) for the pesticide formulation
3. The percent by weight (XX%) of 1,3-D in the pesticide formulation, expressed as a decimal (.XX)
4. The total pounds (TP) of 1,3-D
5. The application factor (1.16 AF)

The ATP for each application shall be calculated using the following formula:

$$TG \times \text{lbs./gal} \times (.XX) \times 1.16 \text{ AF}$$

- Convert 1,3-D percentage by weight (XX%) to a decimal, divide XX% by 100 = .XX
 - To find the TP, multiply, $TG \times \text{lbs./gal} \times (.XX) = TP$
 - To find the ATP, multiply, $TP \times 1.16 \text{ AF} = ATP$
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Background

**Annual
Township Limit
for All
Application
Methods
Increased**

The township (36 square-mile area) limit is necessary to minimize the levels of the amount of 1,3-D in the atmosphere and mitigate the potential for chronic exposure. This township limit is based on the percent of a.i. in different 1,3-D products.

The Department of Pesticide Regulation (DPR) will be utilizing the guidelines of the *California Management Plan: 1,3-Dichloropropene*. For most townships throughout California, the current allocation limit (cap) will remain at 90,250 pounds per calendar year. However, in townships where need exceeds the cap, use of up to 180,500 pounds per calendar year will be allowed, only to the extent that use since 1995 in that township was under the annual limit of 90,250 pounds.

The unused allotment since 1995 will be in effect a “bank” that can be drawn upon since it would not impact the overall average yearly target use of no more than 90,250 pounds per township. Once the bank of unused allotment has been expended, use in a township must return to the annual cap of 90,250 pounds. This is designed to ensure that the annual average of 90,250 pounds is not exceeded.

When county or state borders divide the township, the adjusted total pounds of 1,3-D allowed per calendar year shall be approximately proportional to the area in each political subdivision.

Prior to each application, the permittee shall consult with Dow or their authorized representative to ensure the proposed use does not exceed the ATP of 1,3-D applied in that township within the month or calendar year.

**How a Request
to Use 1,3-D is
Processed**

The management of chronic exposure through township caps will be a condition of registration. Dow will be responsible for tracking, reporting and ensuring township limits are done. Dow will be working in conjunction with the California Data Management Systems (CDMS) to oversee 1,3-D use throughout the State.

1. A Dow-authorized pest control adviser electronically submits a recommendation for 1,3-D use to CDMS for approval.
2. CDMS electronically checks the recommendation for accuracy against the product label and DPR-recommended permit conditions.

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Background, Continued

How a Request to Use 1,3-D is Processed (continued)

3. CDMS validates the adjusted pounds of 1,3-D requested, taking into consideration all application factors described by the permit. If the amount requested is available, the recommendation is accepted and a notice of intent can be filed with the CAC.
 4. The request is checked for available pounds within the township allotment. CDMS will adjust its system to allow the available pounds of 1,3-D per township to increase to two times the current cap (from 90,250 pounds to 180,500 pounds). **This allocation of pounds of 1,3-D above the existing cap will continue until unused pounds relative to the cap from 1995 forward are no longer available.**
 5. When use in any township exceeds the current cap of 90,250 pounds, both DPR and the CAC will receive an informal notification from Dow.
 6. For any township that reaches “1.5 times the current cap” of 90,250 pounds, CDMS records will be compared to county records as a quality assurance step.
 7. If there is not enough 1,3-D available, a note is displayed, identifying available pounds of 1,3-D and allowing a modified request for available material.
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2002 Summary

At the end of the 2002 use season, Dow will provide an analysis of the townships exceeding the existing limit. The analysis will include a summary of the 2002 uses, historic uses, uses in surrounding townships, and types of commodities involved. This analysis will compile available 1,3-D use data from 1995 through 2002. This data will allow site-specific analysis for additional use decisions.
