

INITIAL STATEMENT OF REASONS AND PUBLIC REPORT
DEPARTMENT OF PESTICIDE REGULATION

Title 3. California Code of Regulations
Adopt Section 6448.5
Amend Sections 6000, 6448, 6448.2, 6448.4, 6624, and 6626
Pertaining to Health Risk Mitigation for 1,3-Dichloropropene

This is the Initial Statement of Reasons required by Government Code section 11346.2, and the public report specified in section 6110 of Title 3, California Code of Regulations (3 CCR). Section 6110 meets the requirements of Title 14, CCR section 15252, and Public Resources Code section 21080.5 pertaining to certified state regulatory programs under the California Environmental Quality Act.

SUMMARY OF PROPOSED ACTION/PESTICIDE REGULATORY PROGRAM ACTIVITIES AFFECTED

The Department of Pesticide Regulation (DPR) proposes to adopt 3 CCR section 6448.5 and amend sections 6000, 6448, 6448.2, 6448.4, 6624, and 6626. The pesticide regulatory program activities affected by the proposal are those pertaining to restricted materials and pesticide use enforcement and pesticide worker safety. In summary, the proposed action restricts the use of 1,3-dichloropropene (1,3-D) to mitigate the potential 40-year working lifetime cancer risk to occupational bystanders¹. The proposed action:

- establishes buffer zone distances (distances from the edge of a treated area where certain activities are restricted); and
- requires DPR to include an evaluation in the 1,3-D Annual Report of whether the 1,3-D air concentration in any township exceeds the target level of 0.21 part per billion (ppb) and to develop appropriate measures to reduce exposures if target air concentration levels are exceeded.

Due to the extensive number of changes, DPR also proposes to repeal the document “1,3-Dichloropropene Field Fumigation Requirements, Est. January 1, 2024,” and adopt the document “1,3-Dichloropropene Field Fumigation Requirements, Rev. January 1, 2026,” which is incorporated by reference in existing sections 6448, 6448.2, 6624, and 6626. A copy of this document is included in the rulemaking file.

SPECIFIC PURPOSE AND FACTUAL BASIS

Background on 1,3-Dichloropropene

1,3-D was introduced in California in 1970 as a fumigant used to control nematodes, insects, and disease organisms in the soil. 1,3-D has major uses in California in fruit and nut trees, strawberries, grapes, carrots, and several other food and non-food crops. It is commonly used as a pre-plant

¹ An occupational bystander is an individual working in the vicinity of fields treated with 1,3-D but is not directly handling, mixing, or applying the pesticide.

treatment that is injected into the soil. It may also be applied through drip irrigation. Regardless of the application method, the possibility of offsite transport of this fumigant due to volatilization may subsequently result in human exposure through inhalation.

1,3-D is currently listed as a restricted material in 3 CCR section 6400(e). As a restricted material, the purchase and use of 1,3-D for agricultural production purposes are allowed only under a restricted materials permit from the local county agricultural commissioner (CAC). Before issuing a permit, the CAC must evaluate the permit application to determine whether the intended use may cause a substantial adverse environmental impact based on local conditions at the application site. As part of the evaluation, the CAC must consider certain information, including information required by the director. Depending on the results of this review, the CAC may deny the permit or impose permit conditions including the use of specific mitigation measures. As part of the permit for any restricted material, applicators must provide a notice of intent to the CAC before any application. The notice of intent includes application-specific information, such as the number of acres being treated and the date and time the application is intended to commence.

1,3-D is also listed as a toxic air contaminant (TAC) in 3 CCR section 6860(b) based on its designation as a hazardous air pollutant under the federal Clean Air Act. DPR has been managing the use of 1,3-D as a TAC in order to protect human health since 1990. In 2013, Food and Agricultural Code (FAC) sections 14023 and 14024 were amended to apply to pesticides that, like 1,3-D, are both TACs and hazardous air pollutants (HAP-TACs). Consequently, pursuant to FAC section 14023(f), for HAP-TACs for which a risk assessment has been completed, DPR must determine the “need for and appropriate degree of control measures.” Control or mitigation measures that DPR develops for HAP-TACs must also follow the requirements specified by FAC section 14024, including consulting with the California Air Resources Board (CARB), the California Department of Food and Agriculture (CDFA), the Office of Environmental Health Hazard Assessment (OEHHA), and air pollution control or air quality management districts in affected counties.

Current Management of 1,3-D

In August 2015, DPR released a draft 1,3-D risk assessment, known as the risk characterization document (RCD). Through its consultation and peer review processes, DPR received comments on the draft RCD document from, the United States Environmental Protection Agency (U.S. EPA), OEHHA, several scientists coordinated through the University of California for peer review and Dow AgroSciences, the product registrant. After incorporating comments, DPR published a final RCD titled, “1,3-Dichloropropene Risk Characterization Document, Inhalation Exposure to Workers, Occupational and Residential Bystanders and the General Public” (DPR, 2015b).

In preparing the RCD, DPR conducted a comprehensive evaluation of the toxicological and oncogenic effects associated with inhaling 1,3-D. This included assessing the levels at which these effects occur, quantifying human exposure to 1,3-D under different scenarios, addressing uncertainties in available data, and identifying thresholds where harmful effects are not expected. An individual's potential exposure from 1,3-D varies depending on their proximity to treated fields; the type of exposure (e.g., residential/non-occupational bystanders, occupational bystanders, handlers, reentry workers); and the duration of exposure to 1,3-D (e.g., acute, seasonal, chronic).

Workers and occupational bystanders are assumed to be exposed for 8 hours per day, 5 days per week over 40 years, while residential/non-occupational bystanders are considered to have continuous exposure, 24 hours per day, 7 days per week, over 30, 50, or 70 years in areas with high 1,3-D use.

While worker exposures have the potential to occur on the 1,3-D application site as the direct result of application and handling activities, residential and occupational bystander exposures potentially occur due to off-site movement of 1,3-D from a treated field into the ambient air. Unlike workers working in and about the treated area, occupational bystanders will not have direct potential exposure to 1,3-D emerging from the soil where the product is applied. Rather, occupational bystanders may be exposed to 1,3-D over the course of their working lifetime (i.e., 40 years) when the pesticide enters ambient air and moves away from the application site due to drift. Accordingly, the RCD includes an assessment of the potential concentration of 1,3-D in the ambient air resulting from off-site movement using air dispersion models and monitoring data.

Beginning in 1996, DPR implemented a "township cap" program. DPR revised the program several times and the current program has been in effect since 2017. This program sets yearly 1,3-D usage limits within designated 6x6 mile areas (townships). Under a memorandum of understanding (MOU) with DPR, the 1,3-D registrant² manages 1,3-D sales and use in order to limit the annual use within each township, as well as prohibit use during December. The township cap is enforced through the MOU between DPR and the 1,3-D registrant, along with recommended permit conditions adopted by the CACs.

Lawsuit Challenging Current Management of 1,3-D

In January 2017, Juana Vasquez, Californians for Pesticide Reform, and Pesticide Action Network North America filed a lawsuit against DPR (Vasquez v. DPR) challenging DPR's township cap program for 1,3-D as an underground regulation. On May 14, 2018, the Alameda County Superior Court entered a judgment finding that the township cap program is an underground regulation and issued a writ of mandate ordering DPR to submit to the Office of Administrative Law (OAL) proposed regulations "to address potential cancer risks to bystanders from use for 1,3-D consistent with the Administrative Procedure Act (APA) and FAC sections 12980 and 12981" within one year. The judgment also ordered DPR to "[t]emporarily maintain, as interim measures to address potential cancer risks to bystanders from the use of 1,3-D, the annual township cap of a maximum of 136,000 adjusted pounds and the prohibition on December applications until formal rulemaking is complete."

On July 30, 2018, Dow AgroSciences (Intervener/Defendant) filed a Notice of Appeal of the Superior Court's judgment. On September 8, 2021, the First District Court of Appeals affirmed the lower court decision that DPR's township cap program was an underground regulation. In response, DPR proposed regulations in November 2022 addressing potential cancer and acute risks to non-occupational (residential) bystanders from 1,3-D use. (Office of Administrative Law File

² The current registrant is Salt Lake Holding LLC, a subsidiary of Dow Chemical Corporation. The previous registrant, Dow AgroSciences, is specified in the MOU. Under an agreement with Salt Lake Holding and Dow Chemical, Teleos Ag Solutions is the exclusive distributor of 1,3-D products and manages the township cap, with the assistance of Telus Agronomy (formerly Agrian, Inc.).

Number 2023-1107-02S). These regulations went into effect on January 1, 2024, and incorporate a range of mitigation measures to address the risks associated with 1,3-D. These include employing low-emission fumigation methods, enhancing soil moisture levels, limiting application block size and rates, and maintaining setbacks from occupied structures. These measures account for seasonal variations (winter and non-winter) and regional factors (coastal and inland) to effectively mitigate both acute and long-term cancer risks to non-occupational bystanders associated with exposure to 1,3-D.

In December 2022, the *Vasquez* parties filed a motion challenging DPR's compliance with the court order because, among other things, DPR's residential bystander regulations did not specifically address potential cancer risks to occupational bystanders. In March 2023, the Alameda County Superior Court ordered DPR to adopt regulations specifically addressing cancer risks to occupational bystanders consistent with the APA and FAC sections 12980 and 12981. The court provided that DPR "may, in its discretion [] have (1) comprehensive regulation that protects non-occupational bystanders and occupational bystanders from the use of 1,3-D or (2) separate sets of regulations – one set of regulations to protect non-occupational bystanders and a second set to protect occupational bystanders." DPR's residential bystander regulations went into effect on January 1, 2024. The current court deadline to submit the notice of proposed regulatory action to OAL addressing potential cancer risks to occupational bystanders from 1,3-D is November 15, 2024.

Joint and Mutual Process

DPR has authority to establish worker safety regulations under FAC section 12980, which specifies that the development of regulations related to pesticides and worker safety is the joint and mutual responsibility of DPR and OEHHA. FAC section 12981 further states that regulations related to health effects shall be based on the recommendations of OEHHA.

On December 13, 2023, OEHHA transmitted to DPR its health-based recommendations to mitigate cancer risk from occupational bystander exposure to 1,3-D (OEHHA, 2023). Based on OEHHA's recommendations regarding options for mitigating cancer risks to occupational bystanders, and following consultation with CARB, CDFA, OEHHA, and air pollution control or air quality management districts in affected counties, DPR issued a Risk Management Directive for Occupational Bystander Cancer Risk from 1,3-D on March 22, 2024 (Henderson, 2024).

Following further consultation with CDFA, CACs, CARB, and Air Districts, on June 11, 2024, OEHHA transmitted to DPR updated health-based recommendations (OEHHA, 2024a). As required by Health and Safety Code section 57004, OEHHA has submitted its recommendations for scientific peer review and should receive the reviews in January 2025 (OEHHA, 2024b). The regulatory provisions DPR and OEHHA are proposing to address cancer risks to occupational bystanders from 1,3-D use were developed jointly and mutually and are based on OEHHA's recommendations consistent with FAC section 12980 et seq.

Summary of the Scientific Basis for the Mitigation Measures

DPR is proposing the following measures to minimize 1,3-D exposure for occupational bystanders near treated fields:

- establish buffer zones; and
- in consultation with OEHHA, annually conduct evaluations and develop interim mitigation measures when conditions contributing to exceedances of the target level are likely to continue to ensure air concentrations remain at or below 0.21 ppb.

For fumigants like 1,3-D, occupational bystander exposure can happen through inhalation due to the off-site movement of pesticides from treated fields into the ambient air. The level of inhalation exposure depends on the amount of fumigant emissions from the treated soil to the air, the distance between these emissions and the occupational bystanders, and the dispersion from the treated field to the location of occupational bystanders. Mitigation measures focus on reducing or limiting emissions during and after the application, increasing the distance between the fumigated fields and occupational bystanders to minimize potential exposure, and/or increasing the length of time such bystanders are excluded from the buffer zone.

Emission estimates are key scientific data needed to develop mitigation measures. Consistent with previous regulations, DPR proposes to use the HYDRUS computer model to estimate emissions of fumigants from soil to the atmosphere. HYDRUS is a first principles (physics-based) computer model that uses a finite element method approach to describe the movement of heat, water, and solute throughout the soil profile. DPR worked with the developer of HYDRUS to implement a fumigant module that allows for simulations that include tarpaulin cutting and bedded applications with untarped furrows. This model can estimate 1,3-D emissions based on its chemical properties (e.g., soil adsorption), characteristics of the soils where field soil fumigations occur (e.g., water content), and characteristics of methods of application (e.g., depth of fumigant injection below the soil surface). Validation work and external peer review have subsequently shown that the HYDRUS model produces flux estimates comparable to those reported across a range of field studies and has additionally indicated that HYDRUS can accurately simulate the fundamental processes of heat, water, and solute transport throughout the soil profile, increasing confidence in the ability of the model to simulate flux under new scenarios (Kandelous, 2019). HYDRUS estimates the 1,3-D emissions as a rate (e.g., pounds volatilized per hour [per acre]) and shows how the emission rate changes over time. HYDRUS also estimates the cumulative emissions for a specified period of time. Brown (2019) and Brown (2022) describe DPR's HYDRUS methods and estimated hourly emissions (for buffer zone purposes) and 500-hour (21-day) total emissions (for township cap) for each 1,3-D fumigation method proposed for the regulation. Brown (2019) described the methodology, which was peer-reviewed (DPR, 2019). Brown (2022) used the same methodology but included additional data collected since the previous analysis.

Briefly, Brown (2022) used HYDRUS to estimate emissions for 22 unique 1,3-D fumigation methods proposed to be included in the regulations. For each of the proposed fumigation methods, emissions were modeled using the chemical properties of 1,3-D and soil characteristics from 21 fields sampled just prior to fumigation. The 21 fields included eight soil texture classes from three coastal counties and six inland counties, which represent the range of soil conditions for 1,3-D fumigations in California.

Based on the peer-reviewed (DPR, 2019) evaluation described in Luo (2019a) for previous regulations, DPR proposes to use a second computer model, American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD), to complement HYDRUS in estimating 1,3-D air concentrations for these regulations. AERMOD is a U.S. EPA-approved and validated air dispersion model. It has been used to estimate air concentrations from industrial sources as well as for other fumigants. AERMOD estimates air concentrations based on two key data inputs: emission rate and weather conditions. Consistent with previous regulations, DPR proposes to use the 1,3-D emissions estimated from HYDRUS, and historical weather data from several California locations as the AERMOD inputs.

OEHHA used the AERMOD model along with Pesticide Use Reporting (PUR) data to estimate the average working lifetime exposure of occupational bystanders in adjacent fields to 1,3-D applications. The assessment was based on the following assumptions:

- Occupational bystanders have a working lifetime of 40 years.
- Exposure to 1,3-D occurs during working hours from 8 AM to 4 PM (8 hours per day) on working days (5 days per week).
- Occupational bystanders are present at the edge of the application site for 3 days per week.
- Emissions persist for 3 weeks following each application.
- Application frequency is 3.2 times per year in the coastal region (96.5th percentile of 132 townships) and 1.6 times per year in the inland region (99th percentile of 462 townships).
- Application block size is 80 acres (maximum acreage).
- Application rates for each method are based on historical averages for 2011-2023.
- As required by the regulations effective on January 1, 2024, field fumigation method (FFM) 1206-nontarp/18-inch depth are predominantly replaced by FFM 1224-nontarp/24-inch depth for orchard crops and grapevines (hereinafter tree and grape crops).
- The target cancer risk level is 1 in 100,000 or lower.
- Breathing rate during 8 hours of moderately intensive work per day is 10 m³/day.
- Inhalation Cancer Slope Factor is 0.19 (mg/kg-day)⁻¹, equivalent to a potency value of 0.057 ppm⁻¹.
- Average body weight is 70 kg (i.e., 154 lbs).

For workplace exposure, OEHHA determined that a 1,3-D air concentration of 0.21 ppb would result in cancer risk level of one cancer incidence in one hundred thousand (10⁻⁵) individuals over a working lifetime (8 hours/day, 5 days/week over 40 years). OEHHA recommends the following methods, separately or in combination, to mitigate occupational bystander risks from working in close proximity to fields to which 1,3-D has been recently applied (OEHHA, 2024a).

1. Changes to application methods

Several FFMs are associated with occupational bystander exposures at target levels of exposure. These include a deeper injection method (FFM 1224/24-inch), and methods that utilize totally impermeable film (TIF) tarps, such as FFMs 1242-TIF/12-inch depth/broadcast and 1243-TIF/12-inch depth/bed, when used for crops other than tree and grape. Any mitigation measures that result in similar near-field air concentrations at or below 0.21 ppb are assumed to result in bystander

exposures at acceptable levels and are consistent with OEHHA recommendations and would not require the buffer zones described below.

2. Restrictions on proximity of occupational bystanders to fields following 1,3-D application

Exposures to occupational bystanders adjacent to recently treated fields can be reduced by increasing the distance from the application site and thereby restricting the amount and duration of exposure following an application. For example, a buffer zone of 100 feet for 48 hours following all non-TIF tarp treatments for crops other than tree and grape would reduce occupational bystanders' exposure to the target level.

3. Controlled application conditions

For each treatment method, emissions can be reduced by controlling application rates (e.g., pounds per acre), month of application, frequency of application, soil water content, and other factors. Any combination of controls that results in similar or lower near-field air concentration levels compared to those for TIF tarp FFMs 1242 and 1243 for crops other than tree and grape are assumed to result in occupational bystander exposures associated with risk at acceptable levels,.

While background exposures to occupational bystanders are expected to sufficiently decrease now that DPR's residential/non-occupational bystander regulations are in place, OEHHA recommends that DPR monitor and track the implementation of new fumigation methods, conduct air monitoring as feasible, and further assess ambient air concentrations to ensure they remain at or below the target level of 0.21 ppb.

Potential Mitigation Measures

While DPR's recently enacted regulations mitigate both acute and cancer risks for non-occupational bystanders, they also reduce exposure for occupational bystanders by:

- Increasing soil moisture from a minimum of 25% field capacity to 50% to reduce 1,3-D emissions.
- Requiring new fumigation methods with lower 1,3-D emissions than current methods. Tree and grape crops historically used the untarped, 18-inch injection method. Fumigations for tree and grape crops must now use a 24-inch injection method or a TIF method, which significantly reduces emissions.
- Requiring setbacks of 100 to 500 feet from occupied structures to 1,3-D applications. The setback distances vary with region, season, fumigation method, application rate, and acreage. The setbacks do not reduce emissions, but some fields or parts of fields may no longer be fumigated.

DPR and OEHHA identified several mitigation measures to further reduce potential 1,3-D exposure for occupational bystanders.

Establishing Buffer Zones and Related Requirements

Section 6000 of 3 CCR defines a "buffer zone" as an area that surrounds a pesticide application block in which certain activities are restricted for a specified period of time to protect human health and safety from existing or potential adverse effects associated with a pesticide application. The

proposed regulations include the use of buffer zones—areas surrounding treated fields where 1,3-D cannot be applied for a specified time and only 1,3-D handling activities and transit are allowed.

DPR and OEHHA utilized HYDRUS and AERMOD modeling data to determine optimal combinations of fumigation methods, seasons, and application rates to ensure that 1,3-D air concentrations do not exceed the target level of 0.21 ppb at specified buffer zone distances. To account for weather variability, DPR's AERMOD modeling integrated five years of one-hour meteorological data, managed by AERFUM, a comprehensive air dispersion modeling system for soil fumigants (Luo, 2019b).

OEHHA utilized the results from the updated air dispersion modeling (Luo and Segawa, 2024) and 1,3-D use data (i.e., number of applications per year, average application rates, and use frequencies from 2013 – 2023 period) to develop buffer zone distances and durations that would mitigate risks to acceptable levels for occupational bystanders working close to the treated fields (OEHHA, 2024c).

The proposed regulations outline specific buffer zone requirements and duration periods for each type of FFM and crop type. According to the updated recommendations, implementing a 100-foot buffer zone for 48 hours following the application of 1,3-D lowers risk levels for FFM groups 1201, 1202, 1206, 1207, 1210, 1211, and 1209 to a target cancer risk of 1 in 100,000 (10^{-5}). FFM groups 1224, 1242, 1243, 1250, and 1264 do not require a buffer zone when used for crops other than trees and grapes. Irrespective of the application method, tree and grape crops require a 100-foot buffer zone for 48 hours following 1,3-D application. The more stringent requirements for tree and grape crops are due to their higher application rates in comparison to other crops.

Changing Fumigation Methods

Utilizing lower-emission fumigation methods, such as FFMs 1242 and 1243, 1250, and 1264 (TIF tarps) and 1224 (24-inch injection) helps reduce occupational bystander exposures and maintains cancer risks at target levels.

Modifying Application Conditions

Adjusting application conditions such as application rates, application frequency, month of application, and soil water content can mitigate pesticide risk. Limiting the daily exposure of occupational bystanders working near recently treated 1,3-D fields to an average air concentration of 0.21 ppb or below will reduce cancer risk to the target level.

Data Monitoring and Recommendation of Additional Mitigation Measures

Buffer zones and related requirements are crucial for mitigating immediate risks to occupational bystanders from 1,3-D exposure. Additionally, they play a key role in reducing long-term exposures and addressing associated cancer risks. The primary objective is to ensure that occupational bystanders' working lifetime exposure level does not exceed 0.21 ppb. Consistent with U.S. EPA guidance for air dispersion modeling, a five-year period will be used as a surrogate for

estimating a 40-year working lifetime. These requirements are designed to address health risks to occupational bystanders working in close proximity to fields where 1,3-D is applied.

DPR and OEHHA agree that these mitigation measures do not account for general background exposures (not attributable to close proximity to treated fields) contributing to occupational bystander exposure to 1,3-D from working in the vicinity of treated fields during their workday. As OEHHA states in their recommendations, while these “background exposures to occupational bystanders are expected to sufficiently decrease once DPR’s non-occupational bystander regulations are in place, OEHHA recommends that during this time DPR confirm this is the case by monitoring how the new methods are being implemented, conducting air monitoring to the extent feasible, and further evaluating through modeling ambient 1,3-D concentrations...” OEHHA recommends that “If the resulting annual average ambient air concentration experienced by occupational bystanders working in the general vicinity of treated fields in high 1,3-D use areas fall significantly above 0.21 ppb, DPR should develop and adopt additional mitigation measures.”

DPR agrees with OEHHA’s recommendations and will annually conduct an analysis of the multi-year average, in consultation with OEHHA, to determine if additional mitigation measures are needed. This analysis of 1,3-D pesticide use data will be conducted on a township (6x6-mile area) basis and will be evaluated to determine if one or more townships exceed 0.21 ppb over a multi-year period (as detailed in the next section, initially three years and increasing to five years when five years of data under the new residential and occupational bystander regulations is available). DPR will identify the factors contributing to the exceedance with the township, and if the factors are expected to continue, DPR would develop interim mitigation measures in consultation with OEHHA and the local CAC, in the form of recommended restricted material permit conditions, to reduce air concentrations to no more than 0.21 ppb in those townships.

The interim mitigation measures would expire after three years. During the interim period, DPR and OEHHA would develop and adopt a new regulation to make the interim mitigation measures and/or other measures permanent or would allow the interim measures to expire if subsequent data evaluated during the rulemaking process indicates air concentrations are less than 0.21 ppb.

Based on OEHHA’s recommendations, the annual analysis will include estimates of both near-field air concentrations from specific 1,3-D applications and ambient air concentrations from regional 1,3-D use. There is no current method to estimate these combined air concentrations, so one will need to be developed and described in the annual report. Additionally, modeling inputs will be based on the specific conditions for the townships evaluated. The modeling inputs will include data from pesticide use reports (PURs), such as reported application locations, application rates, acreage, and fumigation methods for the evaluated townships, instead of the default inputs used for the buffer zone modeling. The annual analysis will also use local weather data for the evaluated townships. OEHHA’s recommendations assumed that the occupational bystanders worked for eight hours between 8:00 am and 4:00 pm. This work period assumption might not apply to certain types of fieldworkers. If warranted, DPR will use alternative work hours when 1,3-D applications occur for the evaluated townships and model air concentrations for these hours.

Proposed Regulations

The purpose of the proposed regulations is to mitigate the use of 1,3-D to reduce the potential 40-year working lifetime cancer risk to occupational bystanders. This will be achieved by establishing a buffer zone at the edge of the treated fields, based on relative emissions of different application methods and application rates by crop. DPR's and OEHHA's modeling indicates that the proposed mitigation measures meet DPR's regulatory target concentration of 0.21 ppb for cancer risk of 1 in 100,000 as a 40-year average and sufficiently mitigate 1,3-D cancer risks to occupational bystanders working in close proximity to treated fields. The regulations require DPR to track and monitor 1,3-D use data annually. The annual report will identify any townships where air concentrations exceed 0.21 ppb and include DPR's evaluation, in consultation with OEHHA, of whether factors causing any exceedance are likely to persist. If DPR determines, in consultation with OEHHA, that the factors causing an exceedance are likely to persist, DPR will consult with OEHHA and CACs to promptly develop and publish interim recommended conditions for restricted material permits to address the exceedance.

Amend 3 CCR Section 6000. Definitions.

The proposed amendments to section 6448 will mandate a buffer zone for several fumigation methods. However, the related section, 6448. 1,3-Dichloropropene Field Fumigation – General Requirements, is not included in the existing definition of “buffer zone” in section 6000. To ensure the definition of “buffer zone” applies to the use of the term in section 6448, DPR proposes to add section 6448 to the existing definition of “buffer zone” in section 6000.

Amend 3 CCR Section 6448. 1,3-Dichloropropene Field Fumigation – General Requirements.

Based on OEHHA's recommendation of establishing a buffer zone for several 1,3-D fumigation methods to reduce occupational bystander exposure to high concentrations of 1,3-D, DPR proposes the addition of new subsections 6448(d) and 6448(d)(1) to outline the buffer zone and its specific requirements. Existing subsection (d) is being renumbered to (e), and existing subsections (e) and (f) are being renumbered accordingly.

New subsection (d) establishes a buffer zone requirement for 1,3-D application blocks and provides general descriptions of buffer zones and how their distance and duration can vary with the fumigation method and crop to be planted. A buffer zone of 100 feet for 48 hours for most applications is based on OEHHA's recommendations for protecting the occupational bystander from cancer risks. The proposed buffer zones and duration periods for each type of FFM are specified in “1,3-Dichloropropene Field Fumigation Requirements, Rev. January 1, 2026,” a document incorporated by reference. The proposed buffer zone and duration period requirements within this document are discussed later. During the buffer zone period, only certain activities would be allowed within the buffer zone. Activities related to fumigant handling and transit are proposed to be allowed within buffer zone boundaries. Additionally, local, state, or federal inspections, sampling, or other official duties would be allowed in the application block and buffer zone. These activities are necessary for conducting the application and associated activities and to ensure compliance with regulations associated with the application.

Subsection (d)(1) specifies that the buffer zone can only include property of the operator of the application block because the operator of the application block has no control over other properties. However, the proposed regulation provides an exception if a written agreement is provided that allows the buffer zone to extend into another property. The operator of another property may voluntarily provide a written agreement that they, their employees, residents, and other persons will stay out of the buffer zone while it is in effect. This is necessary to ensure the agreement is documented and is consistent with label requirements for products containing both 1,3-D and chloropicrin. The certified applicator is responsible for obtaining the written agreement and providing a copy to the CAC with the notice of intent so that the CAC can verify compliance.

Additionally, throughout this section, DPR proposes to amend the date of the document incorporated by reference, “1,3-Dichloropropene Field Fumigation Requirements,” to reflect a revision date of January 1, 2026.

Amend 3 CCR Section 6448.2. 1,3-Dichloropropene Field Fumigation Methods.

In subsections 6448.2(b) and (d), DPR proposes to amend the date of the document incorporated by reference, “1,3-Dichloropropene Field Fumigation Requirements,” to reflect a revision date of January 1, 2026.

Amend 3 CCR Section 6448.4. Annual 1,3-Dichloropropene Report.

Existing subsection 6448.4(a), pertains to the Annual 1,3-D Report.

DPR proposes to amend subsection 6448.4(a) to clarify that the specified issuance date is for the draft report and not the final report. DPR also proposes to revise the draft report issuance date from October 1 to November 1 to allow sufficient time to complete the additional analyses required by proposed section 6448.5. DPR proposes to delete the starting year because it will no longer apply when this regulation is adopted.

DPR proposes to correct a typographical error in subsection 6448.4(b)(2) by spelling out 1,3-D.

Existing subsection 6448.4(c), pertains to the public comment period and final report.

DPR proposes to update this section to document the report's progression from draft to final status.

DPR proposes to delete “or arguments” because it is redundant with “written statements.”

Adopt New 3 CCR Section 6448.5. Analysis of Need for Additional Mitigation Measures for 1,3-Dichloropropene.

DPR proposes to adopt section 6448.5(a), which will mandate DPR to analyze 1,3-D pesticide use reports outlined in section 6448.4. Starting with the report covering the calendar year 2027, the Annual 1,3-Dichloropropene Report specified by section 6448.4 will include an evaluation to determine if the estimated 1,3-Dichloropropene air concentrations in any township exceeds 0.21 ppb during the 8:00 AM to 4:00 PM time period using the following data:

- For the report covering calendar year 2027, a three-year average of 2025-2027 data;

- For the report covering calendar year 2028 report, a four-year average of the 2025-2028 data;
- For the report covering calendar year 2029 report, a five-year average of the 2025-2029 data; and
- For the report covering calendar year 2030 and reports for each subsequent year, a 5-year average of the most recent data.

DPR normally follows U.S. EPA guidance (U.S, EPA, 2017) by modeling a five-year period to estimate 40-year and other long-term air concentrations. However, to effectively evaluate these proposed regulations, DPR proposes the evaluation period begin with a three-year period and gradually extend to a five-year period. This approach will allow DPR to take into account the initial two years of data when only the residential bystander regulations, which became effective on January 1, 2024, were in effect and allow for more comprehensive insights into the effectiveness of both regulations. If interim mitigation measures described below are based on three or four-year air concentrations, this approach provides sufficient time for DPR to evaluate additional data during the rulemaking period for the follow-up regulation including modeling five-year air concentrations.

Proposed subsection (a) aims to ensure that the average 40-year working lifetime exposure level for occupational bystanders does not exceed 0.21 ppb during the 8:00 AM to 4:00 PM time period specified in subsection (b), which is consistent with OEHHA's recommendations. (OEHHA, 2024a). As discussed above and as proposed in subsection (b), DPR will evaluate alternative work hours for certain townships and times of the year when 1,3-D applications occur, if warranted. To determine if alternative work periods for specific townships are warranted, DPR will rely on one or more sources of information to determine when field work is performed outside of the 8:00 am to 4:00 pm shift such as existing data, fieldworker surveys, statements of workers and worker representatives from the area, University of California Agriculture and Natural Resources (UCANR) reports, and experts' opinions including CACs and UCANR advisors. DPR will use PUR data to identify main commodities in the specific township(s) of interest and investigate work shift hours for specific activities performed for the commodities in the area of concern during the period 1,3-D is present in ambient air. If the information is not available for that specific area, DPR may use information from a similar area or statewide data if no other option is identified.

If 0.21 ppb is exceeded, proposed subsection (b) also requires DPR to identify the factors contributing to the exceedance within the township. This process will allow DPR to determine the potential factors, evaluate their impacts, and develop appropriate mitigation activities. Potential factors may include non-compliance with existing requirements, the fumigation method used, weather conditions, and application amounts and frequency. For clarity, DPR proposes to include these as examples of potential factors that may cause an exceedance. For transparency, the report will include a discussion of whether the factors that caused an exceedance of 0.21 ppb are likely to continue. An example of a factor that is unlikely to continue is use of an illegal fumigation method or other non-compliance with current requirements that impacts air concentrations, if DPR has reason to believe that a noncompliant applicator has come into compliance. Annual variations in weather conditions such as wind, humidity, precipitation, or temperature do not suggest that an exceedance is unlikely to continue. An example of a factor that is likely to continue is atypical cropping patterns in a township and 1,3-D fumigation methods and application rates that differ significantly from the default assumptions described in OEHHA's recommendations.

If DPR, in consultation with OEHHA, determines that these factors are likely to persist, proposed subsection (c) mandates that DPR, in consultation with OEHHA, develop interim mitigation measures for 1,3-D that will reduce air concentrations to no more than 0.21 ppb. This process is necessary as it will allow the development and publication of appropriate mitigation measures as recommended permit conditions that are protective of occupational bystanders against increased cancer risk from the combined near-field and ambient air concentrations. The interim mitigation measures can be incorporated into 1,3-D permits by the local CAC, while providing sufficient time for DPR and OEHHA to develop detailed data analysis for any necessary regulatory changes. If the need for interim mitigation measures is triggered, DPR, in consultation with OEHHA, will develop appropriate mitigation measures to reduce the three to five-year average air concentrations for the years specified in subsection (a). DPR normally follows U.S. EPA guidance by modeling a five-year period to estimate 40-year and other long-term air concentrations. However, DPR proposes a shorter time period in some cases to expedite the development and publication of appropriate interim mitigation measures, rather than waiting for five years of data. DPR intends to work with OEHHA to develop a method to estimate combined exposure. DPR will use the developed method to estimate occupational lifetime exposure to determine whether mitigation measures are adequate. DPR proposes to specify that relevant townships include those townships where concentrations exceed 0.21 ppb or contribute to an exceedance in a nearby township. DPR will consult with OEHHA and the CACs of the relevant townships in developing appropriate interim mitigation measures. DPR proposes to consult with OEHHA to ensure that air concentrations remain at or below 0.21 ppb. DPR proposes to consult with CACs of the relevant townships because they can assist in evaluating characteristics of specific townships, such as work hours of occupational bystanders, and they will be the local agencies responsible for enforcing these interim mitigation measures.

Proposed subsection (c) requires DPR to include a description of the interim mitigation measures, the townships where the measures will apply, and the estimated timeline for the for the publication of the interim mitigation measures in the Annual 1,3-Dichloropropene Report. A specific timeline for the publication of interim mitigation measures is not feasible due to the unknown complexity of the measures and the time needed for CACs, applicators, and growers to incorporate the measures into 1,3-D permits. However, an estimated timeline will provide the public with a clear understanding of when to expect the publication of the interim mitigation measures. Including this information about interim mitigation measures as part of the Annual 1,3-Dichloropropene Report specified by section 6448.4(c) will ensure that the draft interim mitigation measures, identification of relevant townships, and timeline will be made available for public comment.

Proposed subsection (d) states that DPR will publish the final interim mitigation measures as recommended conditions for 1,3-D restricted material permits under the timeline described in subsection (c) or as soon as reasonably practicable. This will ensure that interim mitigation measures are published in a timely and transparent manner to avoid undue delays. Proposed subsection (d) also states that the interim recommended restricted material permit conditions will expire three years after the date of the final annual report developed under section 6448.4. The timing in this provision provides sufficient time to evaluate DPR's methodology and mitigation measures and is consistent with the timing in 3 CCR section 6448.3, which allows interim approval

of a new field fumigation method for three years. During the 3-year interim period, DPR may complete formal rulemaking with OEHHA to make the interim mitigation measures permanent.

Amend 3 CCR Section 6624. Pesticide Use Records.

In section 6624(c)(8), DPR proposes to amend the date of the document incorporated by reference, “1,3-Dichloropropene Field Fumigation Requirements,” to reflect a revision date of January 1, 2026.

Amend 3 CCR Section 6626. Pesticide Use Reports for Production Agriculture.

In section 6626(g), DPR proposes to amend the date of the document incorporated by reference, “1,3-Dichloropropene Field Fumigation Requirements,” to reflect a revision date of January 1, 2026.

Document Incorporated By Reference: 1,3-Dichloropropene Field Fumigation Requirements, Rev. January 1, 2026

Due to the extensive number of changes, DPR is proposing to repeal the document incorporated by reference, “1,3-Dichloropropene Field Fumigation Requirements, Est. January 1, 2024,” and adopt “1,3-Dichloropropene Field Fumigation Requirements, Rev. January 1, 2026” as a document incorporated by reference. This document, incorporated by reference in sections 6448, 6448.2, 6624, and 6626, is being revised to 1) update the revision date to January 1, 2026, the implementation date for the proposed regulations; 2) reformat the tables of allowed combinations of setback distance, application rate and application block size for ease of reading; 3) add a table of buffer zone distances and duration periods by FFM code; and 4) correct two typographical errors.

The format of setback tables incorporated by reference in the non-occupational regulation text is different from the buffer zone tables established for other fumigants such as chloropicrin. This has resulted in confusion among applicators and growers. It is especially challenging for compliance and enforcement for applications using products containing chloropicrin and 1,3-D. DPR used the existing data in the setback tables and restructured all the tables following the format of buffer zone tables for chloropicrin for consistency and ease of compliance and enforcement.

The new document Section 4 on buffer zone distances and durations expands on the text in proposed subsection 6448(d). It further clarifies which fumigation method and crop to be planted are subject to buffer zone requirements. These regulations aim to mitigate cancer risks to occupational bystanders from exposure to 1,3-D. To ensure the safety of occupational bystanders, OEHHA recommends implementing a 100-foot buffer zone for 48 hours for most applications of 1,3-D. Certain FFM groups, 1224, 1242, 1243, 1250, and 1264, do not require a buffer zone for crops other than trees and grapes. However, all application methods involving tree and grape crops require a 100-foot buffer zone for 48 hours following the 1,3-D application (OEHHA, 2024a). These requirements reflect the latest scientific understanding of the risks associated with 1,3-D exposure and are designed to minimize the exposure of occupational bystanders, thereby reducing the likelihood of developing cancer due to prolonged exposure.

The current document has two typographical errors. Page 4, last paragraph, that currently refers to “page 17” has been corrected to refer to “page 34.” Page 13, Table 1, Nontarpaulin/18 inches deep/broadcast or bed, FFM 1206, has a method description that is inconsistent with subsection 6448.2(d)(5). The method description has been corrected to delete “or bed.” The method description is “Nontarpaulin/18 inches deep/broadcast.”

CONSULTATION WITH OTHER AGENCIES

Sections 12980 and 12981 of the California Food and Agricultural Code specify that the development of regulations relating to pesticides and worker safety are the joint and mutual responsibility of DPR and OEHHA. Those regulations that relate to health effects, shall be based on OEHHA's recommendations. FAC section 12980 mandates that in implementing the provisions of FAC Division 7, Article 10.5, DPR must consult with UC ANR, the Department of Industrial Relations (DIR), and other relevant institutions or agencies. Additionally, FAC section 11454.2(a) requires that DPR consult with CDFA regarding any actions concerning measures adopted to mitigate pesticide adverse effects.

The Worker Safety Regulation Work Group (WSRWG) was established to help the DPR’s Worker Health and Safety Branch and OEHHA with some of the consultative functions required by law. The composition of the WSRWG includes representatives from DPR, OEHHA, DIR, UC ANR, CDFA, and the County Agricultural Commissioners & Sealers Association (CACASA). The WSRWG analyzes and reviews information related to worker safety rulemaking activities, provides input, and makes recommendations on proposed regulations. Consistent with FAC section 12980, 12981 and 11454.2(a), the WSRWG workgroup provides comments on the draft regulation text and related documents.

DPR formed a TAC workgroup to comply with the consultation required by FAC section 14024. In addition to CACASA and the Air Pollution Control Districts required by FAC section 14024, the TAC workgroup included representatives from CARB and OEHHA. The TAC workgroup also included a representative of CDFA to fulfill the consultation specified in FAC section 11454, and January 15, 2019, Memorandum of Understanding developed pursuant to FAC section 11454.2. In compliance with FAC section 14024, the TAC workgroup provides comments on the draft regulation text and related documents (DPR, 2024a).

DPR also consulted with the Agricultural Pest Control Advisory Committee, as required by FAC section 12047 (DPR, 2024b), and the Pesticide Registration and Evaluation Committee (DPR, 2024c).

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION PURSUANT TO GOVERNMENT CODE SECTION 11346.2(b)(4)

DPR has not identified any feasible alternatives to the proposed regulatory action that would lessen any adverse impacts, including any impacts on small businesses, and invites the submission of suggested alternatives. There are three general methods to reduce air concentrations for bystanders: change application methods to reduce emissions, increase the distance between applications and bystanders, and/or limit or reduce use. For this regulation, DPR proposes buffer zones to increase

the distance between 1,3-D applications and occupational bystanders. The proposed buffer zones are consistent with OEHHA’s recommendations as specified by FAC sections 12980-12981. Additionally, the only other likely effective mitigation measure would be to require totally impermeable film (TIF) tarps for all 1,3-D applications. As specified in Table 10 of the 1,3-D Field Fumigation Requirements, rev. January 1, 2026, TIF applications do not require a buffer zone. However, CDFA’s economic impact analysis indicates that this measure has a much higher economic cost (Mace, et al., 2024a). Use limits such as a township cap are the third option, but they are only effective for reducing ambient air concentrations, while occupational bystanders are exposed to both near-field and ambient air concentrations.

EVIDENCE SUPPORTING NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON BUSINESS PURSUANT TO GOVERNMENT CODE SECTION 11346.2(b)(5)(A)

While the proposed regulations will have a statewide economic impact directly affecting businesses, the impact will not be significant, including the ability of California businesses to compete with businesses in other states. CDFA and UC Davis assessed the potential economic impact of the proposed regulations. The summary of their report (Mace, et al., 2024a) evaluated the measures aimed at reducing cancer risk to occupational bystanders by analyzing how growers could comply with the proposed regulations regarding application methods, and buffer zone distances and durations. The assessment also involved estimating the economic impacts of these changes using the five most recent years of pesticide use data. The initial statewide compliance costs for implementing the newly proposed buffer zone distances and duration periods, as well as the annual cost of acquiring written agreements from neighboring properties, were estimated at \$84,136 - \$125,971 for the initial year and \$71,664 - \$103,866 annual after the first year. These estimates are based on the assumption that neighboring properties will allow the proposed buffers on their land, allowing growers to avoid additional expenses. These estimates do not include the use of any additional TIF tarp described below.

The estimated costs for statewide 1,3-D applications are:

Year	One-time Learning Cost	Annual Cost	Total Initial Cost
2019	\$22,105	\$103,866	\$125,971
2020	\$22,105	\$100,427	\$122,532
2021	\$20,522	\$102,665	\$123,187
2022	\$17,766	\$95,842	\$113,608
2023	\$12,472	\$71,664	\$84,136
Average	\$18,994	\$94,893	\$113,887

=If a neighbor refuses, growers will need alternative compliance measures, with TIF application being the most cost-effective option. It is estimated that 13,997 acres of trees and grapes, along with 20,276 acres of row crops, may need to transition to TIF tarps. This switch could result in annual cost increases of \$23 million for trees and grapes, and \$26.1 million (\$21.3 million without drip tape) for row crops (Mace, 2024b).

The estimated cost of switching to TIF Tarp Applications are:

Year	Crop	Crop Acreage	Cost Increase
2019	Tree/Grape	16,446	\$27,037,224
	Row crops	21,966	\$23,086,266 - \$28,314,174

2020	Tree/Grape	16,880	\$27,750,720
	Row crops	22,431	\$23,574,981 - \$28,913,559
2021	Tree/Grape	15,513	\$25,503,372
	Row crops	20,276	\$21,310,076 - \$26,135,764
2022	Tree/Grape	13,171	\$21,653,124
	Row crops	20,079	\$21,103,029 - \$25,881,831
2023	Tree/Grape	7,973	\$13,107,612
	Row crops	16,628	\$17,476,028 - \$21,433,492

In addition, CDFA made an estimate of the number of businesses (farms) impacted by the proposed regulations (Mace, 2024c). DPR defined small businesses as independently owned and operated, not holding a dominant position in their field, and having fewer than 100 employees. In accordance with the 2022 Census of Agriculture, out of 63,134 California farms, 44,941 were held by families/individuals, 7,757 were in partnerships, and 6,528 were family-owned corporations. CDFA approximates that small businesses make up between 82% and 88% of California farms. Between 2019 and 2023, 703 to 1,021 individual farms utilized 1,3-D. The total cost of meeting the requirements was approximated to be between \$45,029 and \$72,401 for annual crops and between \$39,379 and \$60,230 for perennial crops, with variations depending on the year.

The estimated costs of compliance with new proposed regulations for annuals and perennials crops are:

Year	One-time Learning Cost		Annual Cost		Total Initial Cost	
	Perennials	Annuals	Perennials	Annuals	Perennials	Annuals
2019	\$12,444	\$10,234	\$41,699	\$62,167	\$54,143	\$72,401
2020	\$13,290	\$9,306	\$40,007	\$60,420	\$53,297	\$69,726
2021	\$12,472	\$8,542	\$47,758	\$54,907	\$60,230	\$63,449
2022	\$10,234	\$7,887	\$42,572	\$53,270	\$52,806	\$61,157
2023	\$6,631	\$6,113	\$32,748	\$38,916	\$39,379	\$45,029
Average	\$11,014	\$8,416	\$40,957	\$53,936	\$51,971	\$62,352

ECONOMIC IMPACT ASSESSMENT PURSUANT TO GOVERNMENT CODE SECTION 11346.3(b)

Creation or Elimination of Jobs within the State of California: The proposed action will not likely create or eliminate jobs within California. DPR proposes to establish buffer zones for a certain amount of time for several fumigation methods and the proposed requirements are similar to current requirements for other fumigants. These changes will not lead to the creation or elimination of jobs within California.

Creation of New Businesses or the Elimination of Existing Businesses within the State of California: The proposed action would not create new businesses or eliminate existing businesses currently doing business within the State of California. The proposed regulations require minimal changes in processes, services, and equipment for compliance, and the changes can easily be achieved by existing businesses. Therefore, the proposed regulations will not lead to the creation or elimination of existing businesses within California.

The Expansion of Businesses Currently Doing Business within the State of California: The proposed action will not likely result in an expansion of businesses currently doing business within the State of California. The proposed regulation requires minimal changes in processes, services, and equipment for compliance, and the changes can easily be achieved by existing businesses. Therefore, the proposed regulations will not lead to expansion of businesses within California.

The Benefits of the Regulation to the Health and Welfare of California Residents, Worker Safety, and the State's Environment: The proposed action is designed to reduce and mitigate the potential cancer risk of 1,3-D to occupational bystanders. DPR has established a specific target concentration of 0.21 ppb for 1,3-D. The proposed regulations are anticipated to be protective of occupational bystanders by reducing exposure to high concentrations of 1,3-D, thereby lowering the associated cancer risk.

IDENTIFICATION OF ANY SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECT THAT CAN REASONABLY BE EXPECTED TO OCCUR FROM IMPLEMENTING THE PROPOSAL PURSUANT TO CALIFORNIA CODE OF REGULATIONS, TITLE 3, SECTION 6110

The Secretary of Natural Resources determined that DPR's pesticide regulatory program, including the adoption, amendment, and repeal of pesticide regulations, qualifies as a certified regulatory program under Public Resources Code section 21080.5 and 14 CCR section 15251(i). This determination means DPR's pesticide regulatory program is functionally equivalent to the California Environmental Quality Act's (CEQA) requirements for preparing environmental impact reports (EIRs), negative declarations, and initial studies, and is therefore exempt from such requirements. This initial statement of reasons serves as the public report required under 3 CCR section 6110 and satisfies the requirements of DPR's CEQA certified regulatory program for rulemakings at 3 CCR section 6110-6116.

DPR's public report, as the substitute document satisfying CEQA functional equivalency requirements, must include a description of the proposed activity, and either (A) alternatives to the activity and mitigation measures to avoid or reduce any significant effects that the project might have on the environment, or (B) a statement that DPR's review of the project showed that the project would not have any significant effects on the environment and therefore no alternatives or mitigation measures are proposed to avoid or reduce any significant effects on the environment (3 CCR section 6110). DPR shall not adopt a regulation that would cause a significant adverse environmental impact if there is a feasible alternative or mitigation measure that would substantially lessen those significant adverse environmental impacts (3 CCR section 6116).

Under existing law, any pesticide sold or used in California must first be registered by U.S. EPA and also registered with DPR (7 U.S.C. section 136a(a); FAC section 12815 and 12993). DPR must conduct a thorough and timely evaluation before a pesticide is registered to ensure, among other things, that the pesticide does not have significant adverse environmental effects for which there are no feasible mitigation available, the use is not more detrimental to the environment than the benefit, and there are no reasonable, effective, and practicable alternatives that are demonstrably less destructive to the environment (FAC section 12824, 12825). Once registered, a pesticide may only be used in compliance with the approved label and any additional restrictions imposed by DPR or CAC related to the use of that pesticide (FAC section 12973). The pesticide product label

includes use restrictions that are designed to address potential adverse impacts to human health and the environment (3 CCR section 6254).

1,3-D is currently listed as a restricted material in 3 CCR section 6400(e) and thus may only be purchased and used for agricultural production purposes under a restricted materials permit from the local CAC. Before issuing a permit, the CAC must evaluate the permit application to determine whether the intended use may cause a substantial adverse environmental impact based on local conditions at the application site. Depending on the results of this review, the CAC may deny the permit or impose permit conditions including the use of specific mitigation measures. (3 CCR section 6432.) As part of the permit for any restricted material, applicators must provide a notice of intent to the CAC at least 24 hours before any application. The notice of intent includes application-specific information, such as the number of acres being treated and date the application is intended to commence. (3 CCR section 6434.) After registration, if DPR receives a report of adverse effects, DPR must also investigate and if appropriate, reevaluate a pesticide that DPR's investigation finds may have caused or is likely to cause a significant adverse impact (3 CCR section 6220). In addition, DPR carries out an orderly program for the continuous evaluation of all registered pesticides (FAC section 12824).

1,3-D was introduced in California in 1970 and DPR has been managing the use of 1,3-D in order to protect human health and the environment since at least 1990. In 2015, DPR's comprehensive risk characterization document identified potential acute and cancer human health risks from 1,3-D inhalation exposure (Marks, 2015b). As described above, for fumigants such as 1,3-D, occupational bystander exposure occurs through inhalation as a result of off-site movement of 1,3-D from a treated field into ambient air.

In 2016, DPR determined that its management strategy for mitigating cancer risks needed to be updated. (Marks, 2016b.) As a result, DPR implemented a maximum annual use limit in each township and other use restrictions through restricted material permit conditions and a memorandum of understanding with the registrant to control total emissions of 1,3-D to address cancer risk (exposure over 70 years) to non-occupational (residential) bystanders. In January 2017, DPR's township cap program was legally challenged in court. Subsequent to the court's order for DPR to submit proposed regulations to OAL to address potential cancer risks to bystanders from use of 1,3-D, more recent air monitoring and data analyses indicated that additional mitigation measures were needed to address short-term acute exposures to non-occupational bystanders. Therefore, DPR's first regulation, filed with the Secretary of State on December 22, 2023, and effective on January 1, 2024, restricted the use of 1,3-D to mitigate the potential 72-hour acute risk and 70-year lifetime cancer risk to non-occupational (residential) bystanders.

The residential bystander regulation placed additional and more stringent restrictions on the use of 1,3-D by establishing mandatory setbacks from occupied structures (zones where 1,3-D cannot be applied for a specified period of time); setting limits on the application rate and acres treated for individual applications; placing additional restrictions on seasonal applications and multiple applications that do not meet distance or time separation criteria; requiring more stringent soil moisture content for applications; and limiting applications to specific fumigation methods with corresponding setbacks and restrictions. This regulation became effective on January 1, 2024.

Consistent with Food and Agricultural Code sections 12980 and 12981, DPR has worked jointly and mutually with OEHHA to develop proposed regulations to address potential cancer risks to occupational bystanders from 1,3-D use. Based on OEHHA's recommendations, additional mitigation was necessary to address risks from working in close proximity to fields where 1,3-D is applied, and that while background exposures to occupational bystanders are expected to sufficiently decrease, DPR should confirm that this is the case and otherwise mitigate in specific townships. As such, the proposed regulations establish buffer zones for specified durations across most fumigation methods and allow the development of appropriate interim and, as needed, permanent mitigation measures, if concentrations exceed 0.21 ppb. Based on OEHHA's recommendations, the proposed restrictions on 1,3-D use outlined in DPR's proposed regulations are projected to reduce potential exposure to 1,3-D to mitigate cancer risks to occupational bystanders (OEHHA, 2024a).

DPR's proposed regulations are not reasonably expected to cause a significant adverse effect on human health; flora (plants); fauna (fish and wildlife); water; or air. To the contrary, by placing additional and more stringent restrictions on the use of 1,3-D than are currently in place, DPR's proposed regulations are expected to reduce overall emissions and potential exposure to 1,3-D in the ambient air, thereby benefiting human health and the environment.

DPR's proposed regulations offer greater protection compared to current California laws and practices. These proposed regulations include buffer zones designed to protect occupational bystanders from higher levels of 1,3-D exposure. The proposed regulations will require DPR to include an evaluation in the 1,3-D Annual Report to determine if the 1,3-D air concentration in any township exceeds the target level of 0.21 ppb and develop appropriate interim and, as needed, permanent mitigation measures to reduce exposures if air concentration levels are exceeded.

Given the environmental and regulatory context, implementing the proposed regulations is not expected to result in any significant adverse effects to human health or the environment. The regulations will restrict current usage further and decrease overall air concentrations and exposure to 1,3-D. Therefore, the proposed regulations qualify for categorical exemption from environmental review under 14 CCR section 15061(b)(3). Since no significant adverse effects are anticipated, no alternative measures or mitigation strategies are necessary to mitigate environmental impacts.

EFFORTS TO AVOID UNNECESSARY DUPLICATION WITH FEDERAL REGULATIONS

The proposed regulatory action does not duplicate or conflict with any regulations contained within the Code of Federal Regulations because there are no federal regulations that address this issue. Only the U.S. EPA-approved product labels address soil field fumigation use of 1,3-D.

DOCUMENTS RELIED UPON

1. Brown, Colin. 2019. "HYDRUS-simulated flux estimates of 1,3-dichloropropene maximum period-averaged flux and emission ratio for approved application methods," Department of Pesticide Regulation Report, October 17, 2019.
https://www.cdpr.ca.gov/docs/emon/pubs/ehapreps/analysis_memos/hydrus_simulated_flux_estimates_13d.pdf

2. Brown, Colin. 2022. "Updates to HYDRUS-simulated flux estimates of 1,3-dichloropropene maximum period-averaged flux and emission ratios," Department of Pesticide Regulation Report, September 22, 2022.
https://www.cdpr.ca.gov/docs/emon/pubs/ehapreps/analysis_memos/1-3-d/1-updates_to_hydrus-simulated_flux_estimates_of_1-3-d.pdf
3. DPR. 2016a. "Response to comments by OEHHA on DPR-HHAB's draft 1,3-dichloropropene risk assessment document (dated August 31, 2015)," August 6, 2016. Department of Pesticide Regulation. https://www.cdpr.ca.gov/docs/hha/memos/13-d-dpr_hhab_resp_to_oehha_080516_final.pdf
4. DPR. 2016b. "Response to comments by US EPA on DPR-HHAB's draft 1,3-Dichloropropene Risk Characterization Document dated August 31, 2015," September 8, 2016. Department of Pesticide Regulation. https://www.cdpr.ca.gov/docs/hha/memos/13-d_dpr_response_usepa.pdf
5. DPR. 2016c. "Responses to comments by Dr. Urmila P. Kodavanti on DPR-HHAB's draft 1,3-Dichloropropene Risk Characterization Document dated Aug. 31, 2015." September 8, 2016. Department of Pesticide Regulation. https://www.cdpr.ca.gov/docs/hha/memos/13-d_dpr_response_up_kodavanti.pdf
6. DPR. 2016d. "Responses to comments by Dr. Richard A. Fenske on DPR-HHAB's draft 1,3-Dichloropropene Risk Characterization Document dated November 19, 2015." September 8, 2016. Department of Pesticide Regulation. https://www.cdpr.ca.gov/docs/hha/memos/13-d_dpr_%20response_ra_fenske.pdf
7. DPR. 2016e. "Responses to comments by Dr. Weisueh A. Chiu on DPR-HHAB's draft 1,3-Dichloropropene Risk Characterization Document dated August 31, 2015." September 14, 2016. Department of Pesticide Regulation. https://www.cdpr.ca.gov/docs/hha/memos/13-d_dpr_response_wa_chiu.pdf
8. DPR. 2016f. "Response to comments by Dow AgroSciences on DPR-HHAB's draft 1,3-Dichloropropene Risk Characterization Document dated Aug. 31, 2015." November 8, 2016. Department of Pesticide Regulation. https://www.cdpr.ca.gov/docs/hha/memos/13-d-dpr_hhab_resp_to_dowelanco_112016_final.pdf
9. DPR. 2015b. "1,3-Dichloropropene Risk Characterization Document: Inhalation Exposure to Workers, Occupational and Residential Bystanders and the General Public," December 31, 2015. Department of Pesticide Regulation.
https://www.cdpr.ca.gov/docs/risk/rcd/dichloro_123115.pdf
10. DPR. 2024a. "Review by the Toxic Air Contaminant Workgroup of Documents Related to the Draft 1,3-Dichloropropene Occupational Bystander Regulations, November 2024." Department of Pesticide Regulation document.
11. DPR. 2024b. "Agricultural Pest Control Advisory Committee Agenda, December 11, 2024." Department of Pesticide Regulation.
12. DPR. 2024c. "Pesticide Registration and Evaluation Committee Agenda, November 15, 2024." Department of Pesticide Regulation.
<https://www.cdpr.ca.gov/docs/dept/prec/2024/111524agenda.pdf>

13. Henderson, Julie. 2024. "Risk Management Directive for Occupational Bystander Cancer Risk from 1,3-Dichloropropene (1,3-D)," Department of Pesticide Regulation Memorandum, March 6, 2024. https://www.cdpr.ca.gov/docs/whs/pdf/1,3-d_memo_030624.pdf
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15. Luo, Yuzhou. 2019a. "Evaluating AERMOD for Simulating Ambient Concentrations of 1,3-Dichloropropene, October 17, 2019." Department of Pesticide Regulation Report. https://www.cdpr.ca.gov/docs/emon/pubs/ehapreps/analysis_memos/aermod_simulating_ambient_concentrations_13d.pdf
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