

FINDING OF EMERGENCY
DEPARTMENT OF PESTICIDE REGULATION

Methyl Iodide: Designating as a Restricted Material and
Use Requirements as a Volatile Organic Compound

The Department of Pesticide Regulation (DPR) finds that an emergency exists and that the foregoing adoption of a regulation is necessary for an immediate action to avoid serious harm to the public peace, health, safety, or general welfare.

INFORMATIVE DIGEST

DPR protects human health and the environment by regulating pesticide sales and use and by fostering reduced-risk pest management. DPR's strict oversight begins with product evaluation and registration; and continues through statewide licensing of commercial and private applicators, pest control businesses, and advisers; environmental monitoring; and residue testing of fresh produce. This statutory scheme is set forth primarily in Divisions 6 and 7 of the Food and Agricultural Code (FAC).

Pesticides must be registered (licensed for sale and use) with the U.S. Environmental Protection Agency (U.S. EPA) before they can be registered in California. DPR's preregistration evaluation is in addition to, and complements, U.S. EPA's. Before a pesticide can be sold or used, both agencies require data on a product's toxicology and chemistry--how it behaves in the environment; its effectiveness against targeted pests and the hazards it poses to nontarget organisms; its effects on fish and wildlife; and degree of worker exposure.

In 2007, U.S. EPA registered methyl iodide (also called iodomethane) a preemergent fumigant used in agriculture. Injected into soil before crops are planted, the fumigant spreads through the soil to kill weed seeds, plant diseases, and nematodes. It can be applied by drip irrigation under a special protective tarpaulin, or injected into the soil using a tractor that automatically places a tarp over the ground after application. Based on its acute inhalation toxicity, U.S. EPA designated methyl iodide as a federally restricted-use pesticide pursuant to section 3 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Sales and use of this pesticide are limited to certified applicators and those under their direct supervision, thus controlling the number of persons with direct access to the fumigant.

Concurrent with applications received at the federal level, DPR received applications requesting registration of methyl iodide products for sale and use in California. To register a pesticide, DPR must ensure it can be used safely. In developing effective measures to avoid potentially unsafe pesticide exposures, DPR reviewed studies on possible health and environmental effects, considered a wide range of scientific input, and followed protocols of both U.S. EPA and the World Health Organization. Upon completing its review, DPR established a regulatory concentration target level of 32 parts per billion (ppb) averaged over a 24-hour period for bystanders, and 96 ppb averaged over an 8-hour period for workers, well below U.S. EPA's regulatory target level. DPR plans to register methyl iodide on December 20, 2010.

Title 3, California Code of Regulations (3 CCR) section 6400(a) states that any pesticide labeled as a "restricted use pesticide" pursuant to section 3 of FIFRA is also designated as a restricted material in California. Generally, possession and use of a restricted pesticide are allowed only under a permit issued from the local county agricultural commissioner (CAC). However, 3 CCR section 6414(b) exempts pesticides deemed restricted materials only by operation of section 6400(a) from a restricted-material permit, provided the pesticide is used by or under the supervision of a certified applicator, unless otherwise required by the commissioner.

In addition, methyl iodide is classified as a volatile organic compound (VOC). A VOC is any organic compound other than those exempted by U.S. EPA pursuant to Title 40, Code of Federal Regulations (CFR) section 51.100. VOCs can contribute to the formation of ground-level ozone, which is harmful to human health and vegetation when present at high enough concentrations. The federal Clean Air Act requires each state to submit a State Implementation Plan (SIP) for achieving and maintaining federal ambient air quality standards for ozone. An ozone nonattainment area (NAA) is a geographical region in California that does not meet either federal or state ambient air quality standards. U.S. EPA designates ozone NAAs in CFR section 81.305. Under the SIP, DPR is committed to reduce VOC emissions from agricultural applications of pesticides by specified amounts during the peak ozone season of May 1 through October 31 for five NAAs--Sacramento Metropolitan, San Joaquin Valley, South Coast, Southeast Desert, and Ventura.

This action would designate methyl iodide as a California restricted pesticide in section 6400(e), thereby triggering the requirement for a permit before its use. This provides an immediate and effective mechanism which allows CACs to deny a use permit or implement feasible mitigation measures through permit conditions that go beyond the restrictions on pesticide labeling. Also, this action includes a new provision in 3 CCR that specifies the only allowed field fumigation application methods for methyl iodide during the May 1 through October 31 time period that serve as the basis for the calculation of VOC emissions included in the VOC reporting and allowance system set forth in sections 6452.3 and 6452.4 as required to implement the SIP. It also requires the application method used to apply methyl iodide to be specified in the pesticide use report to allow VOC emissions to be calculated based on the reported use.

SPECIFIC FACTS SHOWING NEED FOR IMMEDIATE ACTION

On April 30, 2010, DPR issued a notice of proposed decision to register products containing methyl iodide for use to treat soil before planting of a limited number of crops including strawberries, tomatoes, stone fruits, tree nuts, vines, nurseries, peppers, turf, and field-grown ornamentals. DPR established a regulatory concentration target level of 32 ppb averaged over a 24-hour period for bystanders--five times lower than U.S. EPA's level of 150 ppb, and 96 ppb averaged over an 8-hour period for workers--half of U.S. EPA's allowable level of 193 ppb.

In order to meet these lower exposure standards, DPR has required the registrant to obtain U.S. EPA approval on California-specific product labels that have significantly more stringent use controls than U.S. EPA's. Product label approval is obtained by U.S. EPA because under federal law, the federal agency has sole authority over pesticide labels. U.S. EPA approved the

California-specific product labels on November 17, 2010. On December 20, 2010, DPR's Director will register methyl iodide for the uses mentioned above.

Current California law requires that a permit be issued by the CAC before the use of a pesticide specifically listed in regulation as a restricted material. These restricted materials are generally required to be used by certified applicators that have demonstrated their knowledge and skills to properly use pesticides under a permit issued by the CAC. The permit process is unique to California. Methyl iodide is not currently on the California restricted-materials list. This action would add methyl iodide to section 6400(e).

Designating this chemical as a state restricted material will provide an immediate and effective mechanism which allows CACs to implement feasible mitigation measures through permit conditions, adding an additional level of compliance oversight and protection to assure safe use under specific local conditions for each application site. An operator will be required to obtain a permit from the CAC. This process will allow the commissioner to deny the permit based on local conditions or place additional conditions on the permit, where necessary, that are precisely crafted on a site-specific basis to protect nearby residential areas, playgrounds, schools, day-care centers, and hospitals. The permit process has the advantage of allowing flexibility in requirements. The problems unique to that use site can be specifically addressed without placing unnecessary burdens on other applications.

Because DPR expects to register methyl iodide on December 20, 2010, immediate action is necessary to designate methyl iodide as a restricted material. FAC section 14004.5 authorizes the Director, by regulation, to designate and establish a list of restricted materials based upon criteria which include danger of impairment of public health. Without the compliance oversight built into the permit process and the flexibility of requiring additional mitigating controls, the unrestricted use of methyl iodide could pose unacceptable risks to human health. Therefore, immediate action is necessary to implement critical measures to ensure the protection of human health from the risks posed from local conditions.

In January 2008, DPR adopted regulations to reduce pesticide VOC emissions in five ozone NAAs. Those regulations, in part, adopted field fumigation methods for seven fumigant active ingredients, and required DPR to issue an annual emission inventory report that includes an analysis of pesticide VOC emissions, emission potentials, and emission ratings in the five ozone NAAs. Classified as a VOC, DPR will need to account for methyl iodide emissions in its report to develop regulatory strategies that will be imposed in the upcoming peak ozone time period of May 1 through October 31 to reduce VOC emissions.

Pursuant to section 6452.4(b), a draft emission inventory report is made available to the public for comments. The draft report will be made available to the public for a 45-day comment period for submission of written statements or arguments to the Director for review before finalizing the Annual VOC Emission Report. Section 6452.4 does not specify methyl iodide emissions to be accounted for in the draft report; therefore, the emission inventory and all of methyl iodide's factors (emission potentials, emission ratings, analyses) will not be reflected. The following immediate action is necessary to include methyl iodide in the draft annual report used to

determine if allowances must be implemented in order for DPR to continue to achieve and maintain federal ambient air quality standards for ozone as required by the SIP.

DPR proposes to adopt section 6446 to clarify that only fumigation methods specified in proposed section 6446.1 are required in the five NAAs during the peak ozone period. These fumigation methods have known emission ratings. Fumigation methods with known emission ratings must be used within the five NAAs during May-October in order to track emissions. Replant of individual vine or tree-sites (tree holes) less than one contiguous acre is not considered field soil fumigations under the provisions of section 6446.1. Emissions are negligible under these conditions.

To facilitate VOC reduction and tracking, DPR proposes to add 6446.1(a) to only allow field soil fumigations of methyl iodide to methods specifically identified in the labeling. Also, DPR proposes to add a subsection (b) pertaining to use of a method for experimental research purposes pursuant to a valid research authorization issued according to section 6260. While it is critical to be able to limit application methods to allow emission tracking, it is important not to block research to develop lower emission methods. Currently, research is underway to develop new application methods (e.g., new tarpaulins, equipment, lower application rates) with lower emissions than the methods described on the label. Without this provision, research would not be allowed to continue. Continuing to allow experimental research will provide immediate and necessary flexibility for innovations that reduce emissions to occur.

Also, DPR proposes to amend 6624(f) to require persons using methyl iodide within the five NAAs to report a description of the method of application in the pesticide use report required by that section. This reported information is critical in determining VOC emissions.

The immediate action of adopting these methyl iodide field fumigation use requirements described above is critical in DPR's ability to meet its obligation to achieve and maintain federal ambient air quality standards for ozone as required by the SIP. Methyl iodide is considered an alternative to methyl bromide and is considered a VOC emitter under federal law. Under the federal Clean Air Act, 70 percent of methyl bromide production has been phased out.

AUTHORITY

This regulatory action is being taken pursuant to authority vested by FAC sections 11456, 12976, 14004.5, 14005, and 14102.

REFERENCE

This regulatory action implements, interprets, or makes specific FAC sections 11501, 14004.5, 14005, 14006, and 14102.

MANDATE ON LOCAL AGENCIES OR SCHOOL DISTRICTS

DPR has determined that the proposed regulatory action does not impose a mandate on local agencies or school districts, nor does it require reimbursement by the state pursuant to Part 7 (commencing with section 17500) of Division 4 of the Government Code because the regulatory action does not constitute a new program or higher level of service of an existing program within the meaning of section 6 of Article XIII B of the California Constitution. DPR has also determined that no nondiscretionary costs or savings to local agencies or school districts will result from the proposed regulatory action.

CACs are the local agencies responsible for enforcing the regulations. DPR anticipates that there will be no fiscal impact to these agencies because CACs will be following the same restricted-materials permit evaluation process that is currently performed. The proposed action requires users of methyl iodide to obtain a permit before they use methyl iodide for field fumigation. CACs are currently required to issue permits for restricted materials. All fumigants are restricted materials that require a permit before use. Therefore, the permit process required for methyl iodide will simply replace the permit process for the fumigant it is replacing.

COSTS OR SAVINGS TO STATE AGENCIES

DPR has determined that no savings or increased costs to any state agency will result from this regulatory action.

EFFECT ON FEDERAL FUNDING TO THE STATE

DPR has determined that no effect on federal funding to the state will result from this regulatory action.

DOCUMENTS RELIED UPON

1. Notice of Proposed Decision to Register Pesticide Products Containing Methyl Iodide and Public Report. Department of Pesticide Regulation, Pesticide Registration Branch. April 30, 2010.
2. Notice of Final Decision to Register Pesticide Products Containing Methyl Iodide and Written Evaluation. Department of Pesticide Regulation, Pesticide Registration Branch. December 1, 2010.