



# Department of Pesticide Regulation



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## MEMORANDUM

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**HSM-03016**

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SUBJECT: LENGTH OF SEASONAL EXPOSURE OF METHYL BROMIDE SOIL  
FUMIGATORS

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This memorandum explains the choice of one month as the duration of soil fumigators' seasonal exposure to methyl bromide.

Seasonal, or intermediate-term, risk is assessed by estimating the duration of continuous exposure, estimating the average exposure over that duration, and comparing the average exposure to the most appropriate toxicity endpoint. The Worker Health and Safety Branch (WHS) considers five to seven exposure days per week to be continuous exposure.

Because data on the work activity of pesticide handlers is usually unavailable, WHS relies on the Pesticide Use Report (PUR) database to identify periods of peak use of an active ingredient (AI). The PUR indicates that while methyl bromide is applied in almost every month in the heaviest-use regions (Monterey/Santa Cruz Counties and Ventura/Santa Barbara Counties), the bulk of the use occurs within a six-month period, and that strikingly higher use occurs in a one- to two-month period.

Use data provide an upper bound on the length of the intermediate exposure period, but additional information must be obtained in order to estimate the period of peak intermediate-term exposure of *individual handlers*. Information that can provide clues about the amount of work per handler includes whether the AI is a restricted material, which crops it is most frequently applied to, the proportion of applications made by air and ground, and whether specialized application equipment is needed. Applications of restricted materials, aerial applications or those requiring other specialized equipment are most likely to be done by commercial Pest Control Operators (PCOs). This usually means that a smaller number of handlers will make applications than if private growers are making their own applications. Information can sometimes be obtained about the number and sizes of PCO companies operating in an area, and possibly about the types of applications different companies handle. This can inform an educated guess about the number of applications per week or month by individual handlers.



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Methyl bromide, being a restricted material, is applied only by PCOs. Soil fumigation with methyl bromide requires specialized tractor-pulled rigs for injecting fumigant into the soil and, usually, covering the soil with plastic tarp immediately afterward. Because soil is fumigated before a crop is planted, there is not as much time pressure to complete many applications in a very short time, as there would be for an AI used to control irruptive pest outbreaks. These factors suggest that the number of PCO companies doing methyl bromide soil fumigation in California would be quite small. Discussions with methyl bromide industry representatives and other information gathered informally by WHS indicate that this is the case.

Data collected on its employees by one of the large PCOs that does methyl bromide soil fumigation indicates drivers and co-pilots work the greatest number of days per year. Nine out of 47 drivers worked 20 days or more in their busiest month (about five days/week). The greatest number of days worked in a month was 26 days (two drivers). The greatest number of days worked by these drivers in a month consecutive with the busiest month ranged from 10 to 19. WHS concluded from this that the period when exposure may be continuous lasts about one month.

cc: Thomas Thongsinthusak, Worker Health and Safety Branch  
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