



Department of Pesticide Regulation



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MEMORANDUM

Gray Davis
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Environmental
Protection Agency

TO: Joseph Frank, Senior Toxicologist
Worker Health and Safety Branch **HSM-02028**

FROM: Sally Powell, Senior Environmental Research Scientist
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DATE: August 28, 2002

SUBJECT: COMMENTS ON THE 8-14-02 CHLOROPICRIN MANUFACTURERS
TASK FORCE (CMTF) REVISED DRAFT PROTOCOL, "MONITORING OF
CHLOROPICRIN EMISSIONS FROM FIELD AND GREENHOUSE DRIP
IRRIGATION APPLICATIONS AND IMPLIED WORKER INHALATION
EXPOSURE FROM APPLICATIONS OF CHLOROPICRIN BY SHANK
INJECTION, DRIP IRRIGATION SYSTEMS AND AT TREE REPLANT
SITES" (DATA PACKAGE ID# 195883)

I have reviewed the revised draft protocol from the Chloropicrin Manufacturers Task Force (CMTF). All required worker exposure replicates have now been accounted for (Table 1). For two application methods, Shallow Shank Bedded Tarped and Shallow Shank Bedded Untarped, my count of the previously submitted replicates indicates one more replicate is needed (see Table 1). However, I would not make an issue of this since there can be some valid difference of opinion about the counting of the submitted replicates.

I have only two concerns about the revised protocol. One has to do with area monitoring around greenhouses, the other with the timing of tarp removal after soil fumigation.

In the July 10, 2002 letter to CMTF from Barry Cortez, we said

"The protocol proposes area monitoring outside a greenhouse during application only, indicating that only passive ventilation of the greenhouse will be conducted. Since the product label advises running ventilation fans when a greenhouse is opened up for tarp removal, this procedure should be followed in the study. This will be considered active aeration. Therefore, area air monitoring should be conducted in the exhaust zone of the greenhouse from the opening of the structure for a minimum of 1 hour and a maximum of 4 hours while fans are running. This is in addition to the area monitoring during application."

The revised protocol specifies continuous monitoring for up to 8 days following application. This may not be long enough to include aeration of the greenhouse; product labels are unclear about the duration of the exposure (fumigation) period. CMTF restates that only passive aeration will be used in California, and therefore, according to our data requirements, aeration need not be monitored. This seems to be a dispute about terminology. The opening up of the greenhouse described in the previous paragraph may not constitute active aeration, but I still think it should be monitored.



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The other issue is how long after soil fumigation tarps should be cut and removed. I had not seen any stipulations about this on product labels and had said the minimum time allowed for methyl bromide should be used. CMTF agreed to this and the revised protocol says tarps will be cut 5 days after application and removed 1 day later. Since then however, I have seen a label for the product Metapicrin, which says

“For all applications involving the use of a plastic tarpaulin remove the tarp after 48 hours of exposure.”

CMTF should clarify the timing requirements for tarp removal and ensure that the protocol specifies the minimum interval permitted.

Table 1. Chloropicrin worker-exposure replicate requirements met by the revised CMTF protocol.

Application method			Work activity	Met prior to protocol	Met by 5/20/02 protocol	Met by 8/14/02 revision
FIELD FUMIGATION						
Shallow Shank	Broadcast	tarped	Handler – tractor driver	✓ ^a		
			Handler – copilot	✓ ^a		
			Handler – soil sealer	✓ ^a		
			Handler – shoveler	✓ ^a		
			Handler – tarp cutter	✓ ^a		
			Handler – tarp remover	✓ ^a		
	Reentry ^b – soil shaper		✓			
		Broadcast	untarped	Handler – tractor driver		
			Handler – soil sealer			✓
			Reentry ^b – soil shaper		✓	
	Bedded	tarped	Handler – tractor driver			✓
Handler – copilot					need +1	
			Handler – shoveler			✓
			Reentry ^b – tarp punch			✓
	Bedded	untarped	Handler – tractor driver			need +1
			Reentry ^b - pipe layer		✓	
Deep	Broadcast	tarped	Nonsupported	----		
Shank	Broadcast	untarped	Handler – tractor driver	Waived		
			Handler – copilot	Waived		
			Reentry ^b – soil shaper		✓	
		Bedded	tarped	Nonsupported	----	
	Bedded	untarped	Handler – tractor driver	Waived		
			Handler – copilot	Waived		
			Handler – soil sealer	Waived		
			Reentry ^b		Waived ^f	
Surface Drip	Tarped	Handler – application ^d		✓		
		Reentry – tarp puncher				✓
	Untarped	Nonsupported	----			
Buried Drip	Tarped	Handler	Waived			
		Reentry	Waived			
	Untarped	Handler – application ^d		✓		
		Reentry	Waived			

Application method		Work activity	Met prior to protocol	Met by 5/20/02 protocol	Met by 8/14/02 revision
POTTING SOIL FUMIGATION					
Nonsupported					----
GREENHOUSE SOIL FUMIGATION (only passive aeration is supported)					
Surface Drip	Tarped	Handler Reentry	Waived ^e	Waived ^f	
	Untarped	Nonsupported	----		
Buried Drip	Tarped	Handler Reentry	Waived ^e	Waived ^f	
	Untarped	Nonsupported	----		
Shank	Any	Nonsupported	----		
REPLANT SITE FUMIGATION					
Wand		Handler-wand operator Reentry	Waived	✓	
Surface Drip	Tarped	All	Waived		
	Untarped	All	Waived		
Buried Drip	Tarped	All	Waived		
	Untarped	All	Waived		
Shank	Any	All	Waived		

^a Subject to conditions in letter to Stephen Wilhelm from Tobi Jones dated Feb. 7, 2002.
^b First activity between end of REI and planting that disturbs the soil. Includes making holes in tarp in preparation for planting.
^c Waiver requested in letter to Tobi Jones from Stephen Wilhelm dated May 17, 2002.
^d Any workers in or on the edge of the field during application.
^e Conditional waiver – see text of letter to Stephen Wilhelm from Tobi Jones dated Feb. 7, 2002.
^f Required in general but waived in this case.