

US EPA ARCHIVE DOCUMENT

**2010 SOIL FUMIGANT MANAGEMENT PLAN
(METAM SODIUM / METAM POTASSIUM PRODUCTS)**

FMP Elements:

- I. Certified Applicator Supervising the Fumigation
- II. General Site Information
- III. Owner/Operator of Application Block
- IV. Recordkeeping
- V. General Application Information
- VI. Emergency Response Plan
- VII. Communication Between Applicator, Owner/Operator and Other On-site Handlers
- VIII. Handler Information
- IX. Tarps
- X. Soil Conditions
- XI. Weather Conditions
- XII. Posting Signs – Fumigant Treated Area
- XIII. Air Monitoring Plan
- XIV. Good Agricultural Practices (GAPs)

2010 SOIL FUMIGANT MANAGEMENT PLAN (METAM SODIUM/METAM POTASSIUM PRODUCTS)

I. Certified Applicator Supervising the Fumigation			
Name:	Phone number:	License and/or certificate number:	☐ Commercial applicator ☐ Private applicator
Employer name:	Employer address:		
II. General Site Information			
Application block/field location (e.g., county, township-range-section quadrant), address, or global positioning system (GPS) coordinates:			
III. Owner/operator of Application Block			
Name:	Address:	Phone number:	
IV. Recordkeeping			
☐ The owner/operator of the application block has been informed that he/she as well as the certified applicator must keep a signed copy of the site-specific FMP and the post-application summary for 2 years from the date of application.			
V. General Application Information			
Target application date/window:	EPA Registration Number:	Fumigant Product Name:	
Application method: ☐ Center Pivot ☐ Solid Set Sprinkler ☐ Drench ☐ Drip ☐ Flood Basin, Furrow and Border ☐ Shank ☐ Spray Blade ☐ Rotary Tiller	Application Rate (lbs or gallons of product/treated acre):	Injection Depth (inches):	Application Block Size (acres):

VI. Emergency Response Plan

Description of evacuation routes (a diagram or drawing may be attached to the FMP):

☐ Check here if diagram or drawing is attached

Locations of telephones:

Contact information for first responders:

Local/state/federal contacts:

Other contact information for emergencies:

Emergency procedures/responsibilities in case of an incident, equipment/tarp/seal failure, complaints or elevated air concentration levels suggesting potential problems, or other emergencies:

VII. Communication Between Applicator, Owner/Operator, and Other On-site Handlers

☐ Pesticide product labels and material safety data sheets are at the application site and available for employees to review.

Will the certified applicator be at the application site during all handler activities that take place from the beginning of the application until the entry restricted period expires? ☐ Yes ☐ No

If no, describe how the certified applicator will share the label requirements with owner/operator and/or handlers who will be present at the application site after the application is complete until the entry restricted period expires.

VIII. Handler Information

☐ Information for all handlers is attached to the FMP

Comments/notes:

IX. Tarps (check here if section is not applicable ☐)

Brand name and tarp manufacturer:

Lot Number:

Batch Number:

Thickness:

Part Number:

Schedule for checking tarps for damage, tears, and other problems:

Maximum time following notification of damage that the person(s) responsible for tarp repair will respond:

Minimum time following damage that tarp will be repaired:

Minimum size of damage that will be repaired:

Other factors used to determine when tarp repair will be conducted:

Equipment/methods used to perforate tarps:

☐ mechanical:

☐ hand:

Schedule and target dates for perforating tarps:

Equipment, schedule and target dates for removing tarps:

X. Soil Conditions

Soil texture/clay content:

Organic Content: ☐ < 1% ☐ ≥1%-2% ☐ ≥2%-3% ☐ >3%

Soil Temperature: Has the air temperature been above 100 °F in any of the 3 days prior to application? ☐ Yes or ☐ No

If yes, record the soil temperature measurement:

Soil Moisture: (check the box of the method used to determine the soil moisture)

Date and time soil moisture determined:

USDA Feel and Appearance Method ☐

Description of soil:

Instrument ☐

Instrument used:

Other ☐

Describe method:

Percent soil water moisture estimate:

Percent soil moisture:

Percent soil moisture:

XI. Weather Conditions

Summary of the weather **on the day of the application** (a printed copy may be attached to the FMP):

☐ Check here if printed copy is attached to the FMP or complete the following:

Wind Speed:

Inversion conditions:

Air-Stagnation Advisories:

Other:

Summary of the weather forecast **during the 48-hour period following the fumigant application** (a printed copy may be attached to the FMP):

☐ Check here if printed copy is attached to the FMP or complete following:

Wind Speed:

Inversion conditions:

Air-Stagnation Advisories:

Other:

XII. Posting Signs – Fumigant Treated Area

Name(s) of person(s) posting Fumigant Treated Area signs:

Treated Area Signs posting date:

Treated Area Signs removal date:

XIII. Air Monitoring Plan

If monitoring indicates air concentrations greater than or equal to 6000 ppb for methyl isothiocyanate (MITC), handlers must stop work and leave the application block.

If sensory irritation is experienced check which of the following be procedures will be followed:

☐ Intend to cease operations or ☐ Intend to continue operations with respiratory protection

Handler Tasks to be Monitored	Monitoring Equipment	Timing

Full Face Respirator Response Plan

If either (1) a handler experiences any sensory irritation when wearing a full face air-purifying respirator, or (2) a MITC air sample is greater than or equal to 6000 ppb, then all handler activities must cease and handlers must be removed from the application block and the following emergency plan will be implemented:

XIV. Good Agricultural Practices (GAPs)

☐ Check here if applicable mandatory GAPs are attached to the FMP (this could be a copy of the label highlighting the applicable GAPs). If this box is not checked, the checklist below must be completed.

Shank

- ☐ Wind Speed
- ☐ Weather Conditions
- ☐ Soil Conditions, Injection Depth, and Soil Sealing
- ☐ Tarps (check here if not applicable ☐)
- ☐ Soil Temperature
- ☐ Soil Moisture
- ☐ Application and Equipment

Rotary Tiller

- ☐ Wind Speed
- ☐ Weather Conditions
- ☐ Soil Conditions, Injection Depth, and Soil Sealing
- ☐ Tarps (check here if not applicable ☐)
- ☐ Soil Temperature
- ☐ Soil Moisture
- ☐ Application and Equipment

Solid Set Sprinkler

- ☐ Wind Speed
- ☐ Weather Conditions
- ☐ Soil Conditions, Injection Depth, and Soil Sealing
- ☐ Soil Temperature
- ☐ Soil Moisture
- ☐ Flushing Irrigation Lines
- ☐ Application and Equipment

Drip

- ☐ Wind Speed
- ☐ Weather Conditions
- ☐ Soil Conditions, Injection Depth, and Soil Sealing
- ☐ Tarps (check here if not applicable ☐)
- ☐ Soil Temperature
- ☐ Soil Moisture
- ☐ Application and Equipment

Spray Blade

- ☐ Wind Speed
- ☐ Weather Conditions
- ☐ Soil Conditions, Injection Depth, and Soil Sealing
- ☐ Tarps (check here if not applicable ☐)
- ☐ Soil Temperature
- ☐ Soil Moisture
- ☐ Application and Equipment

Center Pivot

- ☐ Wind Speed
- ☐ Weather Conditions
- ☐ Soil Conditions, Injection Depth, and Soil Sealing
- ☐ Tarps (check here if not applicable ☐)
- ☐ Soil Temperature
- ☐ Soil Moisture
- ☐ Application and Equipment

Drench

- ☐ Wind Speed
- ☐ Weather Conditions
- ☐ Soil Conditions, Injection Depth, and Soil Sealing
- ☐ Soil Temperature
- ☐ Soil Moisture
- ☐ Application and Equipment

Flood Basin, Furrow and Border

- ☐ Wind Speed
- ☐ Weather Conditions
- ☐ Soil Conditions, Injection Depth, and Soil Sealing
- ☐ Tarps (check here if not applicable ☐)
- ☐ Soil Temperature
- ☐ Soil Moisture
- ☐ Application and Equipment

Description of other product specific GAPs from label that will be followed:

Before beginning the fumigation, I have verified that this site-specific FMP reflects current site conditions and product label directions.

Signature of certified applicator supervising the fumigation

Date

List of Attachments:

Handler Information

Handler Name, Address, and Phone Number	Employer Name, Address, and Phone Number	Tasks Handlers are Trained and Authorized to Perform* (check number(s) from below)	PPE (check all that apply)	Respirator Information (leave blank if "no respirator" is checked under PPE)
		☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10	☐ Long-sleeved shirt/long-pants, shoes, socks ☐ Chemical-resistant apron ☐ Chemical-resistant footwear and socks ☐ Protective eyewear (NOT goggles) ☐ Chemical-resistant gloves ☐ Full-face air-purifying respirator ☐ Self contained breathing apparatus ☐ Other: ☐ No respirator PPE training date:	Make: Model: Type: Style: Size: Cartridge type: Fit test date: Training date: Medical date: Make: Model: Type: Style: Size: Cartridge type: Fit test date: Training date: Medical date: Make: Model: Type: Style: Size: Cartridge type: Fit test date: Training date: Medical date:
☐ The above handler has received Fumigant Safe Handling information within the past 12 months.				
*1. Loaders, drivers, tractor co-pilots, shovelers, cross-ditchers, or other direct application participants 2. Cleaning up fumigant spills (does not include emergency personnel not associated with the application) 3. Tasks with liquid contact potential 4. Installing, perforating, removing, repairing, or monitoring tarps until: -14 days after the application is complete if tarps are not perforated and removed during those 14 days, -Tarp removal is complete if tarps are both perforated and removed less than 14 days after the application, or -48 hours after tarp perforation is complete if tarps will not be removed within 14 days after application. 5. Taking air samples (breathing zone) 6. Handling or disposing of fumigant containers 7. Cleaning, handling, adjusting, or repairing equipment that may contain fumigant residues 8. Installing, repairing, operating, or removing irrigation equipment in the application block 9. Performing scouting, crop advising, or monitoring tasks in the application block 10. Performing other WPS handling tasks				
Comments/notes:				

2010 SOIL FUMIGANT POST APPLICATION SUMMARY (METAM SODIUM / METAM POTASSIUM PRODUCTS)

Post Application Summary Elements:

General Application Information

Tarp Damage and Repair

Tarp Perforation/Removal

Weather Conditions

Complaints

Description of Incidents

Communication Between Applicator, Owner/Operator, and Other On-site Handlers

Posting Signs – Fumigant Treated Area

Other Deviations from the FMP

Attached Tables:

Check boxes if tables are applicable (i.e., there are changes from the FMP, or monitoring information has been recorded. Tables that are not applicable do not need to be included in the final post-application summary).

- ☐ Handler Information (for changes since the FMP)
- ☐ Respirator Cartridge Replacement
- ☐ Air Monitoring Results When Sensory Irritation Is Experienced
- ☐ Breathing Zone Air Monitoring with Direct Read Instruments
- ☐ Water-Run Application Monitoring Results

**2010 SOIL FUMIGANT POST APPLICATION SUMMARY
FOR (INSERT GENERAL SITE INFORMATION FROM THE FMP):**

(METAM SODIUM/METAM POTASSIUM PRODUCTS)

(Only fill-in information if it is different from the FMP or where the label requires that measurements/information are recorded in post-application summary)

General Application Information			
Application date and time:	EPA Registration Number:	Fumigant Product Name:	
Application method: ☐ Center Pivot ☐ Solid Set Sprinkler ☐ Drench ☐ Drip ☐ Flood Basin, Furrow and Border ☐ Shank ☐ Spray Blade ☐ Rotary Tiller	Application Rate (lbs or gallons of product/treated acre):	Injection Depth (inches):	Application Block Size (acres):
Tarp Damage and Repair (check here if section is not applicable ☐)			
Location and size of tarp damage:			
Description of tarp/tarp seal/tarp equipment failure:			
Date and time of tarp repair:			
Additional comments or other deviations from FMP (if applicable):			
Tarp Perforation/Removal (check here if section is not applicable ☐)			
Description of tarp removal procedures (if different than in the FMP):			
Date tarps were perforated:		Date tarps were removed:	

Weather Conditions

Summary of the weather **on the day of the application** (a printed copy may be attached to the post-application summary):

☐ Check here if printed copy is attached to the post-application summary or complete the following:

Wind Speed:

Inversion conditions:

Air-Stagnation Advisories:

Other:

Summary of the weather **during the 48-hour period following the fumigant application** (a printed copy may be attached to the post-application summary):

☐ Check here if printed copy is attached to the post-application summary or complete following:

Wind Speed:

Inversion conditions:

Air-Stagnation Advisories:

Other:

Complaints (check here if section is not applicable ☐)	
Person filing complaint: ☐ On-site handler ☐ Person off-site	If off-site person, name, address, and phone number of person filing complaints:
Description of control measures or emergency procedures followed after complaint:	
Additional comments:	
Description of Incidents (check here if section is not applicable ☐)	
Description of incident, equipment failure, or other emergency:	Date and time:
Description of emergency procedures followed:	
Was the incident reported to the state agency? ☐ Yes ☐ No	
Additional comments (include contact information for person(s) affected):	

Communication Between Applicator, Owner/Operator, and Other On-site Handlers (check if no changes from the FMP ☐)

Was the certified applicator at the application site during all handler activities that took place after the application was completed until the entry restricted period expired? ☐ Yes ☐ No

Date contacted:

If no, list the names and phone numbers of persons contacted:

Comments/notes (any deviation from FMP regarding how the information was shared):

Posting Signs – Fumigant Treated Area

Date(s) of Fumigant Treated Area sign removal:

Description of deviations from FMP (if applicable):

Handler Information for Changes Since the FMP

Have there been any changes to the handler information since the FMP was completed (including handlers that were on-site that were not listed in FMP)? ☐ Yes ☐ No If yes, the updated handler information must be attached to the post application summary.

Other Deviations from the FMP

Additional comments/notes:

I have verified that this post application summary reflects the actual site conditions that occurred during the fumigation and is an accurate description of deviations from the FMP (if applicable).

Signature of certified applicator that supervised the fumigation

Date

List of Attachments:

Handler Information

Handler Name, Address, and Phone Number	Employer Name, Address, and Phone Number	Tasks Handlers are Trained and Authorized to Perform* (check number(s) from below)	PPE (check all that apply)	Respirator Information (leave blank if "no respirator" is checked under PPE)
		☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10	☐ Long-sleeved shirt/long-pants, shoes, socks ☐ Chemical-resistant apron ☐ Chemical-resistant footwear and socks ☐ Protective eyewear (NOT goggles) ☐ Chemical-resistant gloves ☐ Full-face air-purifying respirator ☐ Self contained breathing apparatus ☐ Other: ☐ No respirator PPE training date:	Make: Model: Type: Style: Size: Cartridge type: Fit test date: Training date: Medical date: Make: Model: Type: Style: Size: Cartridge type: Fit test date: Training date: Medical date: Make: Model: Type: Style: Size: Cartridge type: Fit test date: Training date: Medical date:
☐ The above handler has received Fumigant Safe Handling information within the past 12 months.				
*1. Loaders, drivers, tractor co-pilots, shovelers, cross-ditchers, or other direct application participants 2. Cleaning up fumigant spills (does not include emergency personnel not associated with the application) 3. Tasks with liquid contact potential 4. Installing, perforating, removing, repairing, or monitoring tarps until: -14 days after the application is complete if tarps are not perforated and removed during those 14 days, -Tarp removal is complete if tarps are both perforated and removed less than 14 days after the application, or -48 hours after tarp perforation is complete if tarps will not be removed within 14 days after application. 5. Taking air samples (breathing zone) 6. Handling or disposing of fumigant containers 7. Cleaning, handling, adjusting, or repairing equipment that may contain fumigant residues 8. Installing, repairing, operating, or removing irrigation equipment in the application block 9. Performing scouting, crop advising, or monitoring tasks in the application block 10. Performing other WPS handling tasks				
Comments/notes:				

Air Monitoring Results When Sensory Irritation Is Experienced

Date and Time	Handler Name	Handler Task/Activity	Handler Location Where Irritation Was Observed	Resulting Action	Comments
				☐ Cease operations ☐ Respiratory protection	
				☐ Cease operations ☐ Respiratory protection	
				☐ Cease operations ☐ Respiratory protection	
				☐ Cease operations ☐ Respiratory protection	
				☐ Cease operations ☐ Respiratory protection	
				☐ Cease operations ☐ Respiratory protection	
				☐ Cease operations ☐ Respiratory protection	
				☐ Cease operations ☐ Respiratory protection	
				☐ Cease operations ☐ Respiratory protection	
Additional Comments: 					

Breathing Zone Air Monitoring with Direct Read Instruments

Sample Date/Time	Handler Name	Handler Task/Activity	Handler Location	Air Concentration	Sampling Method	Comments (e.g., sensory irritation experienced while wearing respirator, description of control measures or emergency procedures followed)
Additional Comments: 						

Respirator Cartridge Replacement

Handler Name	Why Cartridge Replaced	Time of Cartridge Replacement	Comments
	☐ After 8 hours of use ☐ Target air concentration was exceeded ☐ Sensory irritation felt while wearing a full-face air-purifying respirator ☐ Other		
	☐ After 8 hours of use ☐ Target air concentration was exceeded ☐ Sensory irritation felt while wearing a full-face air-purifying respirator ☐ Other		
	☐ After 8 hours of use ☐ Target air concentration was exceeded ☐ Sensory irritation felt while wearing a full-face air-purifying respirator ☐ Other		
	☐ After 8 hours of use ☐ Target air concentration was exceeded ☐ Sensory irritation felt while wearing a full-face air-purifying respirator ☐ Other		
	☐ After 8 hours of use ☐ Target air concentration was exceeded ☐ Sensory irritation felt while wearing a full-face air-purifying respirator ☐ Other		
Additional Comments: 			

Water-Run Application Monitoring Results

Inspection Date/Time	Name(s) of Person(s) Monitoring	Equipment Properly Functioning (Yes or No)	Comments/Description of Corrective Action Taken (if needed)
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	