ISPM 15 Fumigation Program

Fumigator Requirements for Conformance



Methyl Bromide (MB)

- Currently accepted by the IPPC to treat lumber and WPM for ISPM 15 compliance.
- May be replaced with Sulfuryl Fluoride in the future due to ozone depletion concerns with MB.
- Sulfuryl Fluoride has not been approved by the USDA yet.



How does methyl bromide work?

- Methyl bromide fills air spaces in enclosed areas and penetrates cracks, crevices, and pores in soil, commodities, and structures.
- To be an effective treatment, an appropriate concentration of <u>methyl bromide must be contained</u> at the application site for a given period of time.
- Methyl bromide dissipates off the application site after the treatment is complete.



How Toxic is Methyl Bromide

- Scientists believe that methyl bromide is toxic because it damages several sites in organism's cells.
- Methyl bromide binds to DNA, fats, and proteins.
- Animal studies show that methyl bromide can affect the brain, kidneys, nose, heart, adrenal glands, liver, testes, and lungs.
- Researchers have demonstrated in animal studies that a large increase in toxicity can occur with a small increase in methyl bromide exposure.
- <u>Chloropicrin</u> is used as a warning agent with MB due to fumigant is clear and odorless. It is itself toxic and an eye irritant and if detected move from the area since this indicates a leakage of MB gas. If chloropicrin or some other warning agent is included in the MB fumigant adjustments need to be made to the readings to account for it.



GHS Label Elements













Signal Word: Danger

Hazard statements: Extremely flammable gas.

- May form explosive mixtures with air.
- Contains gas under pressure; may explode if heated.
- Fatal if inhaled.
- Causes serious eye irritation.
- Causes skin irritation.
- May cause respiratory irritation.
- Suspected of causing genetic defects.
- May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS), kidneys)
- Very toxic to aquatic life with long lasting effects.
- Harms public health and the environment by destroying ozone in the upper atmosphere.

Fumigation Paperwork

 Facilities must be able to document that individuals are licensed to perform service. This form must be kept updated for conformance.

PRODUC		Registered F	umigator Q		
	Fumigation Company:				Date: 1-13-16
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elephone #	> FAX #:				
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• TP requires notification of upcoming fumigation activity to provide an opportunity for review if possible.

A minimum of 48 hrs. is typically required. If the fumigation does not allow for this then notification must be sent prior to stamps leaving facility.

Notification of fumigation must be received before stamps are dispatched. Fumigations require date/lime stamps pictures of fumiscope readings to verify conformance.
Date:
Client Name & Location:
Stamp Number:
MB Applicator(s) Name:Phone:
Name of company requesting service:
Approx. number of lots (containers) to be fumigated:
Exact date and time of MB application:
For offsite fumigations:
Number of MB stamps dispatched:(If Applicable)
Exact date & time of dispatch:(If Applicable)
Company contact & exact location of MB application:
Name:Phone:Fax:
Physical Address:
Special Instructions:
Fumigator Signature

ber Products Inspection, Inc. * PO Box 919, Conyers, GA 30012 * 770-922-8000 * 678-374-4450 Fa:

ADVANCE NOTICE MUST BE RECEVIED BY TP PRIOR TO MB APPLICATION.

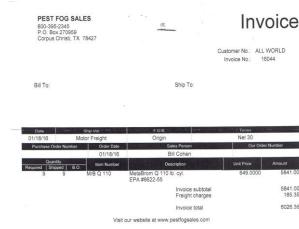


 A fumigation worksheet and pictures should be on file for every MB fumigation for the program.

	BER PRODUCTS Select Contribution B	Fum	nigation \	<u>Workshe</u>	<u>et</u>			
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Company Nan	ne & Program	#:						
Certified Appl	icator:							_
Applicator's S	ignature:							
Date of Treatr	nent:							
Enclosure Typ	e: Tarpau	lin or	Closed I	Door	(Circle o	ne)		
Expected Low	est Temp. Du	ring Fumiga	tion:					
Product Descr	iption:							•
Bd. Ftg. of Fur	nigated Mate	rial:			# Units			_
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Check when D Notes:	ate/Time star	mped pictur	es of ALL rea	dings taken	→			



 Purchased fumigant volume must exceed what has been used.





 Shipped volumes are documented to reflect only IPPC/MB marked <u>footages</u> shipped.



VERIFICATION of MB WOOD PACKAGING MATERIAL AND DUNNAGE "SHIPPED"

Mo	nth Shipped:		Pa	ageof_	
MILL N	JAME :	MI THE STATE OF	PLA	NT#:	
DATE	PRODUCT	SIZE	SPECIES	TALLY	

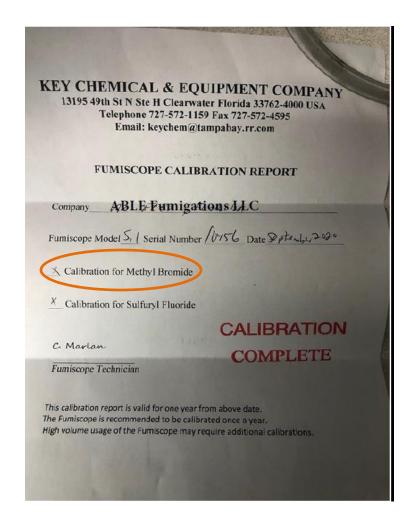
DATE	PRODUCT	SIZE	SPECIES	TALLY	Board Footag
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	BOARD FOOT	AGE SUMMARY:		TOTAL	

The above list is a summary of the lots (trucks, carloads or units) shipped in this month. Shipments documents must be attached. All MB or KD/MB material may not be mixed with non-MB or non-KD/MB material.

Signature of Plant MB Supervisor



Verification of annual fumiscope calibration should be in place and/or documented on fumiscope





Record Keeping Summary

- Fumigators shall provide 48-hour notification prior to performing fumigation. This
 notification form shall be attached to the fumigation Worksheet to verify this process was
 completed.
- Fumigators are required to complete the TP Worksheet for each fumigation and this
 worksheet along with time/Dated pictures and the associated notification are kept with other
 documentation for TP or ALSC inspector review.
- WPM labeled with the IPPC or MB mark must be recorded on board footage (BF) basis for each month.
- QC Process is in place.
- Amounts of MB used must be less than what was purchased.
- Records are kept a minimum of 2 years.

Inspectors will review worksheets, pictures and other documentation for conformance up to the day of their visit.



Fumigation Program Conformance Fumigation Setups





Fumigation Program Conformance Fumigation Setups





Fumiscope



FLOW ADJUST indicates the amount of gas sample being drawn through the unit. The flow meter may need to be adjusted after sample lines are attached and/or disconnected. The flow rate must always read 1.0.

RECENTER ZERO This adjustment is used to bring the display to read as close to zero as possible after the instrument has warmed up for twenty minutes and settled. It should not be used after fumigation begins. (This dial can manipulate readings)

ZERO ADJUST Once the Recenter Zero adjustment knob is set to as close to zero as possible, the Zero Adjust knob is used to settle the unit on zero between readings.

FUMIGANT SELECTOR SWITCH –
Should always be switched to Me Br.



Fumiscopes

When taking time & date stamped pictures make certain to take a large enough picture of the face of the fumiscope so that the reading and Recenter Zero knob can be seen.

This picture does not show enough of the fumiscope face to verify that the Recenter Zero knob has not been manipulated.

This would be a non-conformance because of this.





Gas concentrations and timed readings must meet the criteria on the USDA chart below.

T404-e-1 Regulated wood packing material (WPM)

Two alternative treatments

Pest: Various

Treatment: T404-e-1—MB at NAP—tarpaulin

	Dosage Rate	Minimur Readings	s (ounces	s) At:	
	(lbs./1,000 ft3)	0.5 hr1	2 hrs2	4 hrs.	24 hrs.
69.8 °F or above	3 lbs.	36	36	31	24
61°-69.8 °F	3.5 lbs.	42	42	36	28
51.8°-61 °F	4 lbs.	48	48	42	32

- If the fumigation is conducted in a closed-door container, take the first reading at 1.0 hour instead of 0.5 hours.
- 2 If the fumigation is conducted in a closed-door container, take the second reading at 2.5 hour instead of 2 hours.



Fumiscope Operation

- The Fumiscope is used to monitor the gas concentration during fumigation. Set up the Fumiscope in a location outside the area to be fumigated, but easily accessible to the operator and with a reliable source of power and light. The fumiscope should not be set in direct sun as the heating up of the equipment can affect the readings.
- The sample tubing used is ¼" ID polyvinyl clear tubing. The tubing should be clean and dry. Clear tubing is used so that it may be inspected for dirt and water. Do not use the tubing if dirt and/or water are present. Dirt and/or water will damage the Fumiscope. The sample tubing should be placed at a point in the fumigation area that best represents the whole structure being fumigated.
- Allow the Fumiscope to warm up for twenty minutes. The Fumiscope should be kept at the same temperature as the fumigated structure. The Fumiscope can take up to two hours to acclimate if the unit is move to and from extreme temperatures.
- After the display settles the flow meter should be set to 1.0.
- Use the "Recenter Zero" Knob and then the "Zero Adjust" Knob to set the Fumiscope display to zero. The Fumiscope is now ready to take readings.



Fumiscope Operation (cont'd)

- After the gas has been introduced to the enclosure and allowed to reach equilibrium, connect the sample tubing to the filter and allow the pump to draw a sample into the Fumiscope. This may take a few minutes depending on the length of the sample tubing.
- The Fumiscope is ready when the display shows a consistent reading for 30 seconds.
 This is the gas reading. When the sample tubing is disconnected, the instrument should return to zero.

Maintenance

• The line filter should be clean and dry. Replace the filter if the flow rate of 1.0 cannot be obtained or moisture is present. Avoid water and/or dirt from entering the Fumiscope. Check the sample tubing to be sure there is no moisture in the lines. It is advisable to run the Fumiscope before going to the fumigation jobsite. Allow the Fumiscope to run for several hours especially if the unit has not been operated for long periods of time.

Courtesy of Fumiscopes.com



48 HOUR NOTICE SENT TO AGENCY TP WORKSHEET MUST BE USED TO RECORD DATA.

Fumiscope

- Fumiscope is within its annual calibration date.
- Fumiscope has been allowed to properly warm up.
- Fumiscope should not be set in direct sunlight during use.
- Fumiscope was "zeroed out" at the end of its last use and prior to each reading.
- Dosage rate and concentrations determined prior to starting (Based on lowest temp. of the wood and its surrounding atmosphere during the <u>entire</u> fumigation and not to drop below 52°F).
- Moisture absorbing equipment in place (filter or Drierite).

Material Fumigated

- WPM or wood to be fumigated meets bark requirements. (material to be fumigated must meet bark requirements prior to fumigation).
- Material to be fumigated meets size requirements. (not exceeding 20 cm in cross-section (7.87") at its smallest dimension).
- Material is not wrapped or coated with anything impervious to the fumigant.
- Material is 80% or less of the enclosed space.



Enclosure

- Correct thickness of tarps used and meets reuse criteria (if applicable).
 - 4 mil vinyl or polyethylene plastic tarpaulins are only approved for one usage;
 - 6 mil vinyl or polyethylene plastic tarpaulins may be used up to four times;
 - 10 to 12 mil rubber or plastic-coated nylon tarpaulins may be approved for multiple use.
- Enclosure is well sealed.
- Fumigation site floor is impermeable to the fumigant.
- Fan(s) in place to circulate fumigant.
- Minimum atmospheric temperature requirements met for enclosure and WPM. (Cannot be less than 52°F during the fumigation process.) <u>An external heat source can be used to raise the enclosure and WPM to the minimum required temperature, but there must be physical verification that this minimum was attained prior to the fumigation's start and maintained for the entire 24 hr. period.
 </u>

Inspectors will look for all of this when performing a spot check.



FUMIGATION PROCESS

- Minimum temperature requirements met.
- Leads are properly placed for fumigant readings (i.e., front bottom, center and back top).
- Fans set to high to properly distribute fumigant (minimum air flow of 2500 rpm).
- Fumiscope is reset to zero before each reading is taken.
- Once proper gas concentrations are reached, readings must occur:
 - For plastic at 30 minutes, 2, 4 and 24 hours.
 - For Closed-door container at 1, 2.5, 4 and 24 hours.
- Readings not meeting the concentration-time (CT) requirements will require restarting the fumigation process <u>from the beginning</u>.
- Readings cannot be taken before the time requirements but may be taken within 30 min. after.
- Time/date stamp pictures of readings taken to verify conformance and kept with worksheet.

Inspectors will look for all of this when performing a spot check.



When a notification of fumigation is received, it is sent to ALSC and the TP Inspector assigned to the fumigator. This gives both groups the opportunity to visit the fumigation site and verify conformance is being met. These visits are termed "Spot checks".



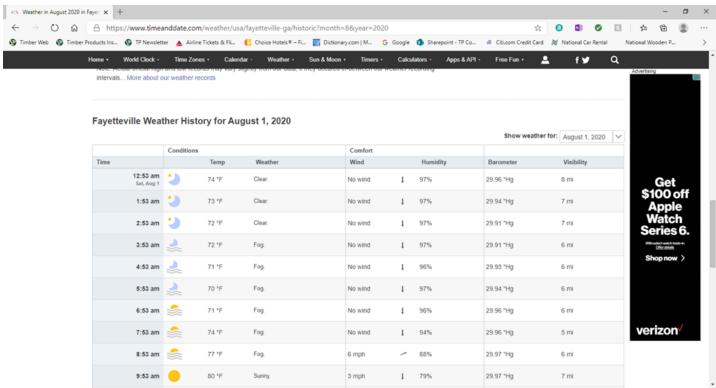
<u>Inspectors on Spot checks will:</u>

- 1. Identify the product being fumigated (from worksheet).
- 2. Document whether the enclosure is a tarp or van.
- 3. Observed if fumiscope has had its annual calibration.
- 4. Check the amount of gas initially introduced (from worksheet).
- 5. Check if concentration readings match requirements <u>based on coldest temp. of wood and surroundings during entire fumigation.</u>
- 6. Document any of the setup that is seen on spot checks (e.g., leads properly placed, fan in place, space in enclosure conforms, etc.).
- 7. Document what was witnessed on spot checks (e.g., 24 hr. reading, temperatures, opening of enclosure, etc.).
- Document if time/date stamp pictures were taken from earlier readings.
- 8. Document whether the worksheet is updated to the time of the spot check visit.

Any discrepancies will be documented as a non-conformance.



Past temperatures will be checked using the website www.timeanddate.com. There is tab for "Weather" where past temperatures can be found to determine if the proper concentrations were used. ALSC uses this site as well.





Inspectors will take a picture of the worksheet at the time of their spot check and include this with their report. Any inconsistencies or missing information will result in a nonconformance. Please call the Program Manager with any questions on this.

Ensure time/date stamped picture readings match what is recorded on the worksheet.

The Inspector will try to perform a spot check prior to sealing the enclosure or at the 24-hr. reading when the enclosure is being opened so a review of the setup inside can be performed to determine and document whether it and the WPM contained conform. If an Inspector spot checks somewhere in the middle of a fumigation and the situation looks suspicious, the Inspector may stop the fumigation and open the enclosure to review the setup.



- The tolerance for illegibility of the applied IPPC mark is up to 10%. Mark illegibility 10% or greater is non-conforming.
- All old IPPC marks must be obliterated and the tolerance for unobliterated marks is 10%. Anything greater than 10% is nonconforming.
- Bark must be made conforming prior to fumigation. This will be reviewed at spot checks as well whenever possible. The tolerance for bark is:
 - Less than 3 cm in width (1-3/16") regardless of the length or

Confidence.

 Greater than 3 cm in width (1-3/16"), with the total surface area of an individual piece of bark less than 50 square cm." which is about the size of a credit card. (See TP Bark Card)

Review the Bark Conformance training module for more information.

Spot Check Reporting

Inspector's Report Example

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The state of the s	1	85		
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MARKS MEET LEGISILITY REQUIREMENTS	Dr.	N	NP	
OBJETRATION IS CONFORMING	Y	N	NP	NA
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Completed TP Worksheet - Example

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roduct Descript	tion:	faller	(mt	e				-DP	
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Drager Tube

• Used to test and see if MB has cleared the enclosed area enough to where it is safe for personnel. The Drager tube has a chemical indicator to produce a color change when the air sample containing a specific substance is pulled through the tube.





General Notes

Ensure only IPPC related fumigation footages are being reported.

• There was a situation where 40 charges were documented, but only 200 bd. ft. in footage was recorded. In this case, most of these charges were not IPPC related but recorded as such.

Stamp inventories will be checked to verify that condition matches reported use. If fumigation notifications are not being received, stamps should be dry and their condition unchanged from the previous month.

Quarantines are NOT ALLOWED to be used on major issues such as a fumigation not meeting conformance in any way. In these instances, the material will be held for retreatment and released by the inspector when verification of conforming retreatment is made.

Quarantines ARE ALLOWED to be used when minor issues (e.g., a small percentage of mark related issues) are found.

The goal is to get all TP audited fumigators conforming to ALSC requirements.



For inbound fumigated lumber:

- The board footage of incoming material labeled MB by an ALSC accredited agency should be recorded for each month.
- Invoices or bills of lading related to the purchase of MB material should be maintained for verification purposes.
- Outgoing shipments of WPM labeled with the IPPC mark must be recorded on board footage (BF) basis for each month. Cut sheets, shipping tickets, or residual inventory count related to this material should also be maintained for verification purposes.



Fumigation Program NC Protocol

Non-conformances in the fumigation program are handled as follows:

- First non-conforming inspection, the TP inspector will explain what is needed for conformance.
- 2. Second non-conforming inspection, an ALSC Warning will be issued.
- 3. Third non-conforming inspection, an ALSC suspension is issued, and stamps will be collected.

Stamps will be returned when written explanation is provided on how non-conforming issues will be corrected. Any non-conforming fumigation visits will cost the fumigator an additional monthly fee.

Additional information is provided in the "Fumigation Requirements" document.



Fumigation Processes

Please contact the Division Program Manager with any questions.

Matt McGowan

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