



## Subject: Methamphetamine Laboratory Decontamination

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### Problem:

The customer owns a 3000sft single family ranch that has a full finished basement that is approximately 1500sft. Both levels share a single HVAC system with returns on both levels. The lower level had been rented out to someone referred to her as a reliable tenant. About one month into the rental the customer started to smell strange chemical odors coming from the HVAC vents. The customer had a bad health reaction to the odors which included vomiting, dizziness, and headaches.

After the customer did research on her symptoms she became concerned that the tenant was cooking meth. She was unsuccessful with getting law enforcement to do an investigation, so she went through the process to have him evicted. Once the tenant had vacated the property, about four months after initial occupation, the customer contacted Meth Lab Cleanup© Company for an onsite assessment.

Meth Lab Cleanup© Company took six composite samples in the lower level and eight composite samples on the main level. The lower level samples came back with results ranging from 0.41µg to 0.21µg, and the upper level results were "Not detected above Practical Quantitation". The EPA states, "Current standards range from 0.05 µg/cm<sup>2</sup> to 0.5 µg/cm<sup>2</sup>. The most common standard is set at 0.1µg/cm<sup>2</sup>". The sampling method includes a sterile piece of gauze folded into fours saturated with laboratory grade methanol. Each of the four sides can then be used to test a different surface. In this case one, three, and four sides were used. The single was the HVAC return covering 100cm<sup>2</sup>, the three sided, one side each for, the floor, ceiling and walls, covering 300cm<sup>2</sup>, the four sided, included multiples of wall, floor, and /or ceiling, covering 400cm<sup>2</sup>. The results are shown in table 1.

The customer also received a remediation protocol from Meth Lab Cleanup© Company for the cost of \$9760. Their proposal included demolition/removal of all laminate flooring, all cabinets, appliances, and all miscellaneous contents. The remaining structure would then be HEPA vacuumed and a detergent would then be brushed onto the walls, ceiling and floors. A pressure washer is then to be used to rinse the detergent from the walls. Then the structure is dried out using standard drying equipment. Finally the HVAC would be cleaned. Following the cleaning post remediation sampling was to be completed by Meth Lab Cleanup© Company.

At this point the customer called her insurance company to file a claim. We were then called in to provide an alternate estimate. We verified that the police had been notified of the results and had completed any sampling or investigating before we began any work.

Sample ID Number	Sample Date	Sample Location	Target	Area Sampled	PreAssessment Results	Post Decon Results
876- 1	9/1/11	HVAC	Meth	100 cm <sup>2</sup>	p 0.41 µg/100 cm <sup>2</sup> *	
876-2	9/1/11	Bed 1 Down	Meth	400 cm <sup>2</sup>	p 0.24 µg/100 cm <sup>2</sup>	
876-3	9/1/11	Bath Down	Meth	400 cm <sup>2</sup>	p 0.24 µg/100 cm <sup>2</sup>	
876-4	9/1/11	Bed 2 – Storage Down	Meth	400 cm <sup>2</sup>	p 0.27 µg/100 cm <sup>2</sup>	
876-5	9/1/11	Fam Rm Down	Meth	300 cm <sup>2</sup>	p 0.23µg/100 cm <sup>2</sup>	
876-6	9/1/11	Kitchen Down	Meth	300 cm <sup>2</sup>	p 0.21µg/100 cm <sup>2</sup>	
876-7	9/1/11	Bath 1 Up	Meth	300 cm <sup>2</sup>	<0.030 µg/100 cm <sup>2</sup> **	
876-8	9/1/11	Bed 1 Up	Meth	300 cm <sup>2</sup>	<0.030 µg/100 cm <sup>2</sup>	
876-9	9/1/11	Bath 2 up	Meth	300 cm <sup>2</sup>	<0.030 µg/100 cm <sup>2</sup>	
876-10	9/1/11	Bed 2 Up	Meth	300 cm <sup>2</sup>	<0.030 µg/100 cm <sup>2</sup>	
876-11	9/1/11	Kitchen Up	Meth	300 cm <sup>2</sup>	<0.030 µg/100 cm <sup>2</sup>	
876-12	9/1/11	Din Rm Up	Meth	300 cm <sup>2</sup>	<0.030 µg/100 cm <sup>2</sup>	
876-13	9/1/11	Fam Rm Up	Meth	300 cm <sup>2</sup>	<0.030 µg/100 cm <sup>2</sup>	
876-14	9/1/11	Liv Rm Up	Meth	300 cm <sup>2</sup>	<0.030 µg/100 cm <sup>2</sup>	
876-15	9/1/11	Field Blank	Meth	N/A	p 1.89 µg/100 cm <sup>2</sup>	

\*p= Sample is positive for methamphetamine

\*\* <0.030 µg/100 cm<sup>2</sup> = Not detected above Practical Quantitation Limit

Table 1

## Protocol:

The affected area, lower level, was in good repair when we arrived. There were no holes or staining on the sheetrock, which is painted with a light color flat paint. The laminate floors were also in good repair with no scratches, staining, or wear present. The cabinets, vanity, countertop and sinks were all in good repair with no staining or wear present. The Bathroom has tile floor, and the utility room was unfinished for a combined total of 150sft, the remainder 1350sft was laminate flooring. The kitchen contained 12ft of lower cabinets and 12ft of upper cabinets.

After visiting the site our first call was to corporate chemist, Gary Slagle, who referred us to Modec's Brian Carley. As our area representative, Brian recommended MDF500. It had been used a couple times in the past with great success. The reason for its success is due to it being an oxidizing agent. MDF500 is a 2 part solution of biodegradable mixture of cationic detergents and fatty alcohols and stabilized hydrogen peroxide. Brian stated that when applied to the surface using a ULV fogger the oxidization process would consume any methamphetamine residue. The process to apply is one technician fogging with a second technician following wiping to remove any excess. The excess is removed because it will leave a sticky residue similar to liquid dish soap when it dries. If applied properly the product will

completely dissipate within 8 hours after application. Proper application includes adjusting the nozzle of the fogger so that once you can see the product coming out it is dialed back slightly. The air should not be hazy. If you can see the product in the air too much is being applied.

The state of Virginia does not yet regulate clandestine drug lab decontamination, so other state mandated protocols (South Dakota and West Virginia) and the EPA's voluntary guidelines were referenced for developing the complete remediation protocol. The remediation protocol included the following items:

- A. Negative air was established using two Defender 500's exhausted through windows at opposite ends of the lower level. The NAMs ran during the cleaning process and allowed to run for 24 hours after completion and 24 hours before testing.
- B. All miscellaneous contents were removed and properly disposed of.
- C. The ducts were cleaned using air pressure and agitation. Each register was removed and thoroughly cleaned with MDF500, followed by ULV fogging into the duct work in each room. Then hand wiping was done as far in as possible. The returns on both levels were also detached and thoroughly cleaned with MDF500. Then the corresponding duct work was fogged and wiped. All registers and return covers were reinstalled after the walls had been cleaned.
- D. The interior windows had screens on the inside, all screens were removed fogged and wiped. The glass and window frame were also fogged and wiped. After 24 hours the glass was cleaned with a standard glass cleaner.
- E. All light fixtures were fogged and wiped, including four ceiling fans. Extra detailed was applied to the ceiling fans to ensure complete coverage with MDF500.
- F. The walls, ceilings, and floors were fogged. Wiping was done in the back half of the lower level. The front half was not wiped because we became concerned that by wiping we weren't leaving a sufficient amount of chemical on the wall.
- G. In the Kitchen, the stove, refrigerator, range hood//microwave were removed and properly disposed of. The cabinets (interior and Exterior), counters, sink were fogged and wiped.
- H. In the bathroom all surfaces, including the vanity, sink, shower, and all fixtures were fogged and wiped.
- I. With the NAM's and fogging a large amount of dust was created and a light dusting of all surfaces (including walls, ceilings and floors) was completed after of fogging and again 24 hours later, to allow debris to settle.
- J. The HVAC had new filters installed and the fan was left to run during the 24hours post fogging.
- K. Special attention was paid to any metal (windows, fixtures, etc...) as the meth residue is more likely to accumulate there.
- L. Less than half a gallon of each part was used to complete all 1500sft.

## **Results:**

Since clandestine methamphetamine labs are relatively uncommon in Virginia finding a company to do post remediation testing was challenging. We were able to find a firm in northern VA who could do the testing, however the cost was 300% over the initial testing. This was not satisfactory, since the lab had no experience, and the perception was that the cost was so high due to the uncertainty of the job

requirements. West Virginia’s state website contained a list of certified remediators/inspectors and Simon Environmental was selected because they offered credentialed techs with experience and the willingness to travel, and a cost based on competitive industry standards.

Simon environmental conducted sampling using the same procedures as Meth Lab Cleanup© Company. However, since this was post remediation and to keep cost down the customer elected to have three composite samples taken. One tested the air return and registers, the next included the two bedrooms and bathroom, the last covered the living room and kitchen. Each sample covered 400cm<sup>2</sup>. The test results all came back “Not detected above Practical Quantitation”. The results are shown in table 2.

<b>Analytical Results</b>			
Sample ID: <b>WPC-01</b>		Media: Wipe	Collected: 10/26/2011
Lab ID: 1130411001		Sampling Location: 876 Armel Rd White P	Received: 10/31/2011
<b>Method: Illicit Drugs by LC/MS</b>		<b>Sampling Parameter: Area 400 cm<sup>2</sup></b>	<b>Analyzed: 11/03/2011</b>
Analyte	ug/sample	ug/100cm <sup>2</sup>	RL (ug/sample)
Methamphetamine	ND	<0.025	0.10
Sample ID: <b>WPC-02</b>		Media: Wipe	Collected: 10/26/2011
Lab ID: 1130411002		Sampling Location: 876 Armel Rd White P	Received: 10/31/2011
<b>Method: Illicit Drugs by LC/MS</b>		<b>Sampling Parameter: Area 400 cm<sup>2</sup></b>	<b>Analyzed: 11/03/2011</b>
Analyte	ug/sample	ug/100cm <sup>2</sup>	RL (ug/sample)
Methamphetamine	ND	<0.025	0.10
Sample ID: <b>WPC-03</b>		Media: Wipe	Collected: 10/26/2011
Lab ID: 1130411003		Sampling Location: 876 Armel Rd White P	Received: 10/31/2011
<b>Method: Illicit Drugs by LC/MS</b>		<b>Sampling Parameter: Area 400 cm<sup>2</sup></b>	<b>Analyzed: 11/03/2011</b>
Analyte	ug/sample	ug/100cm <sup>2</sup>	RL (ug/sample)
Methamphetamine	ND	<0.025	0.10
Sample ID: <b>WPC-04</b>		Media: Wipe	Collected: 10/26/2011
Lab ID: 1130411004		Sampling Location: 876 Armel Rd White P	Received: 10/31/2011
<b>Method: Illicit Drugs by LC/MS</b>		<b>Sampling Parameter: Area Not Applicable</b>	<b>Analyzed: 11/03/2011</b>
Analyte	ug/sample	ug/100cm <sup>2</sup>	RL (ug/sample)
Methamphetamine	ND	NA	0.10

Table 2

## Conclusion:

MDF500 has presented itself as an effective cost saving method in the remediation of clandestine drug labs. Meth Lab Cleanup© Company’s methods, while no doubt as effective, place heavier financial burden on the customer. Had the customer gone with the other proposal they would have paid \$9600 for remediation, plus the cost to replace 1350sf of laminate flooring, 241ft of cabinets, 121ft of countertop, 4 ceiling fans, and would have had to repaint all rooms. This could have cost the customer well over \$20,000. However we were able to make her lower level safe for habitation for a fraction of the cost at \$5000.

The possibilities that MDF500 offer are greater than what was explored here. The product can be diluted and used to clean carpet using the hot water extraction method. As this house has illustrated, not all clandestine drug labs are shacks in the woods. They have the possibility to be a bedroom in an expensive house, or a hotel room. MDF500 offers the possibility to make the areas safe without the destructive cleaning of pressure washing and the need to do a water job.

Each job should be considered on its own details and level of contamination.

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## Reference Material:

EPA: Voluntary Guidelines for Methamphetamine Laboratory Cleanup

- <http://www.epa.gov/oem/methlab.htm>

West Virginia: 60A-11: Clandestine Drug Laboratory Remediation Act

- <http://www.wvdhhr.org/RTIA/pdf/Clandestine%20Drug%20Laboratory%20Remediation%20Act%20-%2060A-11.pdf>

West Virginia: Title 64, Legislative rule, Dept of Health and Human Resources, Bureau for Public Health

- [http://www.wvdhhr.org/RTIA/pdf/Clandestine%20Drug%20Laboratory%20Remediation%20Rule%20-%2064-92\[1\].pdf](http://www.wvdhhr.org/RTIA/pdf/Clandestine%20Drug%20Laboratory%20Remediation%20Rule%20-%2064-92[1].pdf)

South Dakota: Guidelines for contamination Reduction

- <http://denr.sd.gov/des/wm/hw/MethLabCleanup.pdf>