

Clandestine Methamphetamine Lab

Residential Real Property Cleanup Guidelines

1. Background

This document provides voluntary cleanup guidelines to homeowners and cleanup contractors involved in meth lab remediation of residential real property. It does not set requirements, but rather suggests a “best practices” method of approaching a remediation of a former methamphetamine lab.

Removal vs. Remediation

Making a former meth lab location acceptable for reoccupation requires two basic efforts:

- The removal of the gross contamination (i.e., containers of chemicals and equipment and apparatus that could be used to make illegal drugs) by law enforcement; and
- The remediation of interior structures and the surrounding land.

This document provides voluntary guidelines related to this remediation activity. Remediation involves utilizing recognized procedures to restore the structure containing a former meth lab to a state in which the residential real property can be inhabited again, or identifying residential real properties that are not yet ready for reoccupation and must undergo further treatment. Remediation activities can only commence after gross chemical removal, when the site is secured, and the site is no longer subject to criminal investigation.

Synthetic Meth Labs

These voluntary guidelines specifically address the remediation of former meth labs and the specific dangers and hazards associated with them. The guidelines may be applied to all meth labs, which vary greatly. For the reasons listed below, no two meth labs are alike:

- Meth labs range from crude makeshift operations to highly sophisticated and technologically advanced facilities.
- Meth labs can be set up almost anywhere and are often found in private residences, motel and hotel rooms, apartments, trailers, automobiles, campgrounds and commercial establishments. Labs are also found in rural outbuildings, barns and other structures that may appear uninhabitable.
- There are many different ways to make meth, and the precursor chemicals, by-products and hazards associated with each production method differ.

How to Use this Document

This document presents users with a possible sequence of remediation activities from securing the site to delivering the final report. Users will also find in this document the best practices on how to clean specific items and/or materials found within a former meth lab (e.g., walls, floors, appliances, electronics, fabrics, toys).

2. Remediation Benchmarks

Many of the chemicals used in the meth manufacturing process could be present in most homes. With this in mind, following best practices for cleanup should provide the residential real property owner the most effective means for an effective remediation of the residential real property. This is based on the following assumptions:

- Bulk chemicals will be removed during the gross removal;
- Furniture, appliances or building materials with obvious stains (i.e., contamination) will be discarded;
- Many of the other potential contaminants are volatile organic compounds (VOCs) and will tend to volatilize before and/or during cleanup; and
- The activities needed to clean up a structure should sufficiently reduce concentrations of other potentially hazardous chemicals as well.

3. Remediation Sequence

The sequence in this list begins after gross removal has occurred and any law enforcement investigation has concluded. Gross removal includes the removal and disposal of bulk chemicals, equipment and apparatus (hazardous wastes) that could be used to manufacture meth and typically occurs immediately following the seizure of a clandestine lab by law enforcement.

[Note: Chemical containers, equipment or apparatus from the lab may be left behind during the gross removal step. If these items are encountered, stop work and contact local law enforcement personnel (or other appropriate agencies).]

- A. Secure the residential real property to prevent unauthorized entry. The structure should not be reoccupied until after remediation activities are complete.
- B. It is highly recommended that you hire a contractor to ensure these steps are completed correctly. If a contractor is chosen, the contractor must have hazardous waste handling expertise and experience. A contractor should, at a minimum, complete the 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training [Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120].
- C. Ventilate or “air out” the structure with fresh, outdoor air [e.g., open doors and windows; use fans, blowers, and/or a negative air unit with a high efficiency particulate air (HEPA) filtration system]. Continue ventilation throughout the remediation process.
- D. The residential real property owner is responsible for all activities during cleanup and must ensure worker safety and health.
- E. Perform a preliminary assessment.
- F. Develop a work plan (Cleanup Plan) using information from the preliminary assessment. This should include a waste disposal plan.
- G. Remove visibly contaminated materials and dispose in accordance with federal, state and local requirements.

- H. Complete a “once over” or precursory washing of the walls and floors to cut heavy concentrations of contamination.
- I. Clean and seal the heating, ventilation and air conditioning (HVAC) system. Do not run this system again until all other cleanup is complete.
- J. Flush plumbing traps, unless wastewater from the detergent-water washing process will be flushed through the plumbing system. In this case, wait to flush plumbing until all wastewater has been collected for flushing through the sewer system.
- K. Vacuum using a powered vacuum with a HEPA filter.
- L. Use a detergent-water solution to wash ceilings, walls, floors, non-porous furniture and other items that will be kept.
- M. Encapsulate (paint) washed ceilings, walls and seal floors (where applicable).
- N. Ventilate the structure once more after indoor cleanup is complete.
- O. Perform outdoor remediation activities.
- P. Secure the residential real property once more to prevent unauthorized entry.
- Q. Develop a final report.

4. Remediation Sequence Checklist

- Secure the residential real property to prevent unauthorized entry**
- Select Contractor** (do this when the residential real property owner chooses not to perform the actual cleanup)
- Ventilation**

For the safety of on-site personnel, ventilate or “air out” meth labs with fresh, outdoor air (by opening doors and windows, and using fans, blowers and/or a negative air unit with a HEPA filtration system) before, during and after the remediation process. HVAC systems should be shut down and remain off until remediation of the former meth lab is complete.

Pre-Remediation Ventilation

Ventilate the lab prior to the entry of cleanup personnel. In some cases, law enforcement personnel will have already ventilated the lab before conducting criminal investigation activity or the gross removal of chemicals. If the lab was sealed after these activities, ventilate the lab again before remediation occurs. Ventilation should be performed per the contractor’s recommendation or for a minimum of 24 hours.

Continued Ventilation

It is important to continue ventilation throughout the remediation process. To protect workers and to limit cross-contamination, leave windows open and use fans, blowers and/or a negative air unit with a

HEPA filtration system during the cleanup. Negative air units equipped with a HEPA filtration system limits or prevents the transfer of airborne contamination from dirty to clean areas.

Post-Remediation Ventilation

Ventilate the residential real property after cleanup is completed. After cleaning and ventilating the property, recheck for new staining and odor (the presence of which would indicate that additional cleaning is necessary).

Worker Safety and Health

All cleanup procedures should adhere to OSHA HAZWOPER Standard, 29 CFR 1910.120 and other applicable state or local worker safety and health regulations. Do not begin remediation work until gross chemical removal is complete, law enforcement personnel have cleared the structure of defense measures placed by the lab operators (such as anti-personnel devices or “booby traps”), and the structure has been ventilated. Use “the buddy system” when making initial entry and for the duration of the remediation work, in case unforeseen dangers are encountered, and conduct air quality monitoring for volatile organic compounds (VOCs) to ensure the atmosphere is safe for entry. Personnel who enter a former meth lab should have safety and health training (40-hour HAZWOPER training), and should use the appropriate level of personal protective equipment (PPE) based on the site-specific conditions. PPE for meth labs may include protective eye glasses, disposable gloves, foot coverings, steel toe boots and long-sleeved coveralls or a disposable protective suit (such as Tyvek®). Decontaminate or discard, as appropriate, all clothing and PPE worn during remediation. Because meth can be injected intravenously, loose hypodermic needles may be present in a former meth lab and may pose a danger to those involved in remediation activities. Therefore, wear heavy work gloves and thick soled leather shoes when collecting and removing trash, bedding, clothing, drapes, furniture, carpet, flooring or materials from any location that could conceal needles. Dispose of all needles in a labeled sharps container following local or state regulatory guidance. Use respiratory protection (full-face or half-face respirators with VOC/acid-gas cartridges and HEPA filter) when removing carpet and other flooring or working in highly contaminated areas. Respirators should also be used if the inhalation of cleanup solvents poses a threat to human health. Never eat, drink or smoke in a former meth lab prior to or during remediation.

Preliminary Assessment

Once the materials and equipment used in the manufacture of meth have been removed by law enforcement, a preliminary assessment should be conducted. The goal of the preliminary assessment is to provide information that will form the development of the cleanup plan. The preliminary assessment results should be documented in a written summary and include a review of records, a site survey and other activities.

Record Review

To perform the record review, coordinate with local and/or state health departments and review copies of law enforcement or hazardous waste removal contractor reports (if available) for information on the duration of lab operation, manufacturing method, chemicals found, cooking locations, storage locations, disposal areas and observed contamination. This information, when coupled with the professional judgment of a cleanup professional, can provide a foundation for the cleanup plan. Information gathered from those directly involved with the meth lab should be evaluated carefully because they may not be reliable sources of information. Based on law enforcement or hazardous waste removal contractor reports or based on the professional judgment of the assessor, the record review can help you:

- Determine the quantities of chemicals found at the site and types of chemicals expected to have been onsite, based on the cooking methods.
- Identify areas of expected contamination or concern.

Site Survey

After compiling all available information, conduct a site survey. The purpose of the site survey is to confirm the information gathered during the record review, document actual conditions of the site and provide information for developing the cleanup plan. Whenever possible, document conditions of the site with photographs. In conducting the assessment, the assessors should always take precautions to ensure their safety and health. Contamination can be removed prior to the preliminary assessment if it poses an imminent threat to human or environmental health. The structure(s) should be ventilated before entry, and assessors should wear the appropriate PPE. Assessors should notify law enforcement personnel (or other appropriate agencies) if additional materials likely to have been used in the manufacture of meth are discovered.

In order to complete the site survey:

- Compile a description and diagram of the site that includes: address, description and location of all structures; the layout of the residential real property; and a description of adjacent residential real properties and structures. For structures, the diagram should document the size and location of all rooms (e.g., basement, attic, and closets), how the rooms connect and their expected use (e.g., bedroom, closet). In addition, the location of doors, windows, the ventilation system and appliances should be noted on the diagram. This description should include interior surfaces (e.g., walls, ceilings, floors, countertops) and any furnishings that remain on-site after gross removal.
- Document areas of heaviest contamination. These areas could be identified by visible evidence of contamination (such as staining) or based on the professional judgment of the assessor. If visible signs of contamination do not exist, this does not mean there is no contamination. Residual meth should be routinely expected throughout the structure.
- Examine the ventilation system for signs of contamination (e.g., rust, odor).
- Examine the plumbing system (e.g., sinks, toilets, showers, tubs, drains) for damage. In addition, the assessor should identify the type of wastewater disposal system present (e.g., sewer connection, septic system).
- Investigate any adjacent or multiple units for avenues of potential contamination (e.g., common spaces, hallways, shared ventilation system). Cross contamination can often occur in townhouses, apartments, duplexes, etc.
- Determine if outside disposal occurred (e.g., burning, dumping, burying, drainage to septic system) and caused soil or groundwater contamination. Look for signs of burned or dead vegetation and stained soil.

Cleanup Plan (work plan)

The information from the preliminary assessment should be used to develop a cleanup plan. This plan will guide the remedial actions at the site and should:

- Describe security provisions in place for the site to prevent unauthorized access.
- Include a summary of all information gathered in the preliminary assessment.

- Provide information on the contractor, project manager and site supervisor performing the cleanup.
- (If applicable), this should include verification and documentation of the contractor's certification and/or qualifications.
- Include a list of emergency contacts and telephone numbers.
- Determine whether utilities should be disconnected from the structure until cleanup and remediation activities are complete and make appropriate provisions for power needs, if necessary.
- Determine what level of PPE workers should wear while in the contaminated portion of the site. This section should describe any safety and health procedures (including personnel decontamination procedures) that will be followed throughout cleanup. All procedures should adhere to OSHA regulations and guidelines and other applicable state or local worker safety and health regulations. The location and route to the nearest hospital or emergency service facility should also be noted.
- Include a shoring plan, if structural integrity was determined to be a concern during the preliminary assessment.
- Describe the cleanup methods to be used including:
 - ✓ _____ a list of the items to be removed from the structure;
 - ✓ _____ a list of all surfaces or items to be cleaned on-site;
 - ✓ _____ procedures for cleaning;
 - ✓ _____ areas to be encapsulated;
 - ✓ _____ locations and procedures for on-site decontamination; and
 - ✓ _____ containment plans for the cleanup to prevent off-site contamination.
- Describe the plan for waste disposal that complies with federal, state and local statutes regarding materials removed from the structure. This plan applies to hazardous waste and solid waste, as well as wastewater. The plan should include the name of the disposal facility and documentation that the facility is equipped to handle the types of wastes generated (such as hazardous materials).
- List any permits that will be required for the cleanup.
- Include a schedule of the anticipated actions.
- Outline the post-remediation walk-through and final report to document the effectiveness of the cleanup. Once developed, the work plan should be accepted by the residential real property owner and the decontamination contractor.

Removal of Contaminated Materials

After gross removal has occurred and the structure has been ventilated for a minimum of 24 hours, properly discard all materials that will be removed from the lab per the cleanup plan.

[Note: If you find chemical containers, equipment or apparatus from the lab left behind during the gross removal step, stop work and contact local law enforcement (or other appropriate agencies). If law enforcement does not need these items and they can be handled safely, dispose of them appropriately.]

Discard any visibly stained, odor-emitting or damaged materials and decide whether to clean or discard other items on a case-by-case basis using information from the preliminary assessment. Although there is no single determinant that can be used to decide which items should be discarded and which items can be cleaned and kept, consider the following during the decision-making process:

Potential for Contact — Consider whether inhabitants of the structure are likely to come into contact with the item regularly (such as bedding). Discard contaminated items with a high potential for human contact more readily than items with a low potential for human contact. Take extra consideration when deciding whether to discard items that children are likely to come into contact with (e.g., toys, bottles) as children may be especially vulnerable to environmental toxins.

Intrinsic or Emotional Value — Weigh the intrinsic or emotional value of the item with how much it would cost to effectively clean the item. In many cases it is more cost-effective to dispose of an item and replace it than it is to clean it. In some circumstances, however, items of great emotional value, such as wedding albums, may be salvaged.

Porosity — Consider the porosity of the item or material. In general, porous items and materials are easily penetrated or permeated by hazardous gases, liquids or residues. Non-porous surfaces are more resistant to this type of contamination. As a result, contamination is often located *in* porous items and *on the surface* of non-porous items. Thus, it is generally more difficult to eliminate contamination from porous items and materials. (*Note: Because definitions of “porous,” “semi-porous” and “non-porous” differ, the recommendations in **Section 8. Item- and Material- Specific Best Practices** are organized according to item or material.*) Considering the potential for human contact, the intrinsic and emotional value and the porosity of an item or material may help guide decisions as to whether the item or material should be discarded. For example, carpet should be considered for disposal/replacement because it has a high potential for human contact (especially since young children tend to crawl on the floor), has relatively low intrinsic and emotional value and is extremely porous and, therefore, difficult to successfully decontaminate.

“Once-Over”

After all materials and items that will not be cleaned have been disposed of and the structure has been vacuumed with a HEPA filter vacuum, conduct a “once-over” or precursory washing of the walls and floors to cut contamination using a detergent-water solution. Conducting a “once-over” will not only help to ensure the safety of those who enter the structure (e.g., contractors, subcontractors), but it will also lessen the possibility that contamination on the walls and floors will re-contaminate other areas of the structure later in the remediation process.

Heating, Ventilation and Air Conditioning (HVAC)

If a meth lab is located in a structure with an HVAC system or other residential forced air system (e.g., kitchen or bathroom exhausts) it can be expected that fumes, dust and other contaminants have collected in the vents, ductwork, filters and on walls and ceilings near the ventilation ducts. It should be noted that a single HVAC system can service multi-unit structures (e.g., apartments, storage facilities), and allow contamination to be spread throughout. To limit this possibility, the HVAC system should be shut down and remain off until remediation of the former meth lab is complete. During the preliminary assessment, sampling should be conducted in all areas/rooms/units serviced by the HVAC system to determine the spread of contamination and should be noted in the cleanup plan. Contractors who specialize in cleaning ventilation systems, or who have experience cleaning ventilation systems in former meth labs should be used to clean HVAC systems. These contractors have specialized tools and training to ensure thorough cleanup. It is important to remember that not all ventilation system ducts can be cleaned. For example, some ducts are lined with fiberglass or other insulation (which, if damaged during cleaning, can release fiberglass into living areas). Also, flexible ductwork frequently has a porous inner surface and in most cases cannot be cleaned economically. For this reason, the ductwork should be discarded and replaced after the ventilation system is cleaned. If it is determined that the HVAC system can be cleaned, it should be cleaned early in the remediation process, and after the “once-over” cleaning has been conducted. Once cleaned, the HVAC system should be sealed at all openings to prevent potential recontamination. At

a minimum, when approaching a ventilation system constructed of non-porous materials, ventilation contractors should:

- Perform a walk-through of the structure to establish a specific plan for decontamination of the ventilation system.
- Follow safety and health procedures, in accordance with OSHA regulations and guidelines and other applicable state or local worker safety and health regulations, to protect workers and others in the vicinity of the structure during the decontamination process.
- Place protective coverings in areas where work is being performed, including plastic or drop cloths around each area where the duct is penetrated.
- Shut off and lock out all air handler units before working on each air conveyance system.
- Perform a visual inspection of the interior ductwork surfaces and internal components.
- Draw a negative pressure on the entire ductwork, using HEPA exhausted vacuum filters, throughout the cleaning process.
- Remove and clean all return air grilles.
- Clean the ventilation system using pneumatic or electrical agitators to agitate debris into an airborne state (beginning with the outside air intake and return air ducts). Additional equipment may also be used in the cleaning process, such as brushes, air lances, air nozzles and power washers or HEPA filter vacuuming followed by washing with a detergent-water solution. Controlled containment practices should be used to ensure that debris is not dispersed outside the air conveyance system during cleaning.
- Open and inspect air handling units, and clean all components.
- Remove and clean all supply diffusers.
- Clean the supply ductwork using the techniques described above.
- Reinstall diffusers and grilles after cleaning is complete.
- Seal shut access points that were opened.
- Bag and label all debris, including all air filters, and properly dispose of at a landfill.

(Note: There are various types of forced-air systems; therefore, the above steps may need to be modified based on the type of system being cleaned.)

Controlling moisture in ventilation systems is one of the most effective ways to prevent biological growth (such as mold). Therefore, if wet cleaning methods are used (detergent-water washing or power washing), ventilation systems need to be checked to ensure they have dried thoroughly. Cleaning methods should be left to the discretion of ventilation contractors at each lab. Experts agree, however, that no chemicals should be added to either break down meth or disinfect ducts. Further research is needed to define the most effective method for cleaning ventilation systems. The first few minutes of system restart after cleaning is usually when the greatest amount of dust is released. Therefore, after remediation is completed, restart the ventilation system but ensure the structure is properly ventilated (i.e., open doors and windows, use fans, blowers, and/or a negative air unit with a HEPA filtration system) so that any dust that is released will have a chance to be moved out of the structure.

Plumbing

Because meth chemicals are frequently poured down the drain during active cooking, concentrations of these chemicals may remain in the traps of sinks and other drains. As a result, plumbing in structures may be compromised and require attention during remediation. Visibly contaminated (etched or stained) sinks, bathtubs and toilets should be removed and properly disposed of as they are difficult to clean. Porcelain and stainless steel, unless pitted or damaged, may be cleaned in the same manner as other

hard, non-porous surfaces. When staining is noted around sinks, toilets or tubs, or if a strong chemical odor is coming from household plumbing, the plumbing system should be flushed with generous amounts of water to reduce the concentration of residual chemicals. When remediation of plumbing fixtures begins, all plumbing traps should be flushed. If wastewater from detergent-water washing is disposed of down drains within the structure, the system should be flushed after remediation.

High Efficiency Particulate Air (HEPA) Vacuuming

Vacuum the floors of the structure after removing carpets and flooring, using a vacuum with a HEPA filter. Additionally, HEPA filter vacuum walls or other hard surfaces to remove dirt and cobwebs prior to washing with a detergent-water solution (see *Section 3.13*). HEPA filter vacuuming is conducted *in addition to* detergent water washing. Use a vacuum cleaner of commercial grade, equipped with a HEPA dust collection system (HEPA filter). Bagless vacuum cleaners and household vacuums equipped with HEPA filters, such as those purchased at retail stores, are not recommended. HEPA filter vacuuming can be used on surfaces that cannot be cleaned with detergent and water (i.e., porous materials such as upholstered furniture). While HEPA filter vacuuming collects some particulate contamination, it does not remove contamination entirely. Therefore, HEPA filter vacuuming is not encouraged as a standalone remediation technique but may be useful in select cases when the decision has been made to save an item of intrinsic or emotional value that cannot be detergent water washed. While it is generally recommended that contaminated unfinished structural wood be power-washed (and that a wet-vac be used to draw out excess water), power-washing exposed wood may not be advisable in structures susceptible to mold. In these cases, use HEPA filter vacuuming as an alternative.

Detergent-Water Solution Washing

Wash ceilings, walls, floors, furniture and other household items that will not be discarded. Use a detergent-water solution such as a household detergent or soap product. Follow the detergent manufacturer's recommendation to determine the concentration of the solution. Cleaning should thoroughly cover the entire surface, not just spots. The wash water does not have to be hot. Hot water has not been proven more effective than cold water for cleaning. For best results, repeat the cleaning and rinsing process three times. Most guidance documents recommend cleaning from ceiling to floor. Follow each wash with a thorough rinse using clean water and a clean cloth rag. When washing, change cloth rags and detergent-water solutions frequently. After washing, dispose of cloth rags appropriately. The use of harsh chemicals should be avoided.

Wash Water Disposal

Wash water left over from the detergent-water washing process will usually not be contaminated enough to qualify as hazardous waste. Capturing and testing the water before disposing of it is generally not necessary and will increase cleanup costs. Generally, wash water can be disposed of via the wastewater system (sanitary sewer).

Sequence of Remediation to Prevent Recontamination

Cleaning the areas of highest contamination first it is not always possible to know where those areas are. Instead of attempting to clean the most contaminated areas first and the least contaminated last (or alternatively the least contaminated first and the most contaminated last), clean the rooms and areas in the structure from the back to the front, sealing those areas and continuing through the structure. To avoid re-contaminating a room that has been cleaned, seal the room and do not re-enter it. The room can be cordoned off at doors and other openings using plastic sheeting 4 to 6 mm thick. This practice will not only help to minimize potential tracking of contamination into already-cleaned rooms, but also could save time and money spent re-cleaning areas. By sealing each area/room after it has been cleaned, there can be more confidence that recontamination will not occur.

Encapsulation

Encapsulation (sealing with primers, paints and other sealants) may provide a protective barrier to help prevent the migration of volatile chemicals to the surface of the material. Encapsulation should *never* be used as a substitute for cleaning. The extent to which meth and other lab-related chemicals migrate through materials and potentially volatilize is still unknown. Generally, encapsulation should occur after surfaces (e.g., ceilings, walls and floors) have been cleaned. All surfaces and materials should still be encapsulated after they have been washed as thoroughly as possible. Oil-based paint, epoxies or polyurethane are most effective to encapsulate interior surfaces. To encapsulate floors, most experts recommend the use of polyurethane. A primer coating that will not deteriorate over time be applied first in order to provide a firm bond between the surface and the finish coat. Though finish coats are often applied for aesthetic purposes, they also offer additional protection. To achieve complete coverage, it may be necessary to apply more than one coat of primer, and then the final paint or sealant coating. Allow primers, paints or sealants to dry for the time stipulated by the manufacturer before applying additional coats. Further, encapsulated areas should be ventilated thoroughly. Products applied to encapsulate surfaces can be sprayed on, if not hand-rolled. This is a valid recommendation especially for textured surfaces that cannot withstand physical agitation. However, there are no data currently available to suggest the physical motion of using a roller brush is not effective on smooth surfaces.

Ventilate Again (after encapsulation)

Outdoor Remediation

Meth cooks often pour waste chemicals outside of the structure. For this reason, the preliminary assessment may include some outdoor sampling, especially if the ground is visibly stained or otherwise affected (e.g., odors, burn piles, dead vegetation or remnants of reaction waste). If burn or trash pits, discolored soil or dead vegetation are found, refer to state or local regulations (related to hazardous and/or solid waste) to determine the appropriate authority and/or agency responsible for outdoor remediation guidelines.

Secure the property again to prevent unauthorized entry

Final Report

A final report should be prepared by the residential real property owner, cleanup contractor or other qualified environmental professional to document that the property has been decontaminated before the structure can be considered acceptable for reoccupation. All inspections and assessments that were conducted during the remediation process should be fully documented in writing. The report should include the dates that activities were performed and the names of the people/companies who performed the work. Photographic documentation of pre- and post-decontamination property conditions and any documents such as drawings, handwritten notes and photographs should be signed, dated and included as part of these cleanup records. The final report should include, at a minimum, the following information:

Introduction — The introduction should include a case narrative, site description and site assessment. This information should have been collected prior to the start of remediation during both the record review and site assessment. The information should be documented in the Preliminary Assessment. The type of information and documentation in this section should include:

- Physical address of residential real property, number and type of structures present and description of adjacent and/or surrounding properties.
- Law enforcement reports, documented observations and information regarding the cooking areas, chemical storage areas and observed areas of contamination or waste disposal.
- Cleanup contractor statement of qualifications, including description of experience in assessing contamination associated with meth labs.

Methods — This section of the final report should document cleanup and disposal activities. The cleanup plan and documentation that cleanup was in fact carried out according to the plan should be incorporated in this section. The type of information and documentation in this section should include:

- Worker safety and health information.
- Decontamination (e.g., removal, encapsulation) procedures for each area that was decontaminated.
- Waste management procedures, including handling, final disposition of wastes and copies of waste disposal records.

Summary — This section of the final report should provide a signed and dated statement by the property owner that the structure was cleaned in accordance with the cleanup plan and all contamination removed was properly disposed.

5. Waste Characterization and Disposal Procedures

Some items or materials removed from a former meth lab may be classified as hazardous depending upon federal, state or local regulations and may not be appropriate for disposal at a local landfill. Refer to the appropriate federal, state or local solid waste authority to determine what disposal procedures are necessary. Additionally, contact the local landfill operator prior to disposal to ensure the facility will accept the wastes. It is recommended that all contaminated materials be bagged, wrapped and/or sealed before they are removed from the site to avoid spreading the contamination to unaffected areas. It must be stressed the importance of disposing items in a manner to prevent re-use (i.e., salvaging). For example, couches and other furniture should be physically destroyed so that they cannot be re-used. Bear in mind that asbestos and lead-based paint may be present in the structure. If asbestos and lead-based paint are present, and it is determined that they should be removed, their removal and disposal should be compliant with all federal, state and local requirements.

6. Cleaning Items On-site

To avoid contaminating another structure, clean items that will not be discarded on-site. Once items are cleaned, store the items in an already-cleaned room of the structure. It may be beneficial to bag or wrap in plastic those items that are cleaned to prevent recontamination. Items may also be stored off-site if they are properly cleaned and bagged or wrapped in plastic. Do not bring items stored off-site back into the structure until after the structure has been cleaned.

7. Sewer/Septic

Generally, meth lab waste chemicals discarded in sewer systems are flushed from the system within minutes or hours of disposal. However, chemicals may remain in the system longer if connections are on a line of very low flow. During the preliminary assessment, it should be noted if the flow in the line is low. Large volumes of meth lab wastes can pose a problem if they are flushed and end up in on-site septic systems or in privately-owned

wastewater treatment systems or those shared by small communities (e.g., trailer parks, apartment complexes). Evidence of waste disposal may include, but is not limited to:

- witness statements;
- stained or etched sinks, bathtubs or toilets;
- chemical odors coming from plumbing or septic tank;
- visual observations of unusual conditions within the tank (dead tank);
- stressed or dead vegetation in the leach field.

If wastewater from the remediation process will be disposed of in the sewer system, the system should not be flushed until remediation is complete (and wastewater has been flushed). *(Note: Some cleaning agents kill the flora of a septic system; therefore it is not recommended that wastewater be disposed of in a septic system.)* Remediation of septic systems should occur at the end of the remediation process in order to ensure that any chemicals that are disposed of into the septic system are appropriately removed. However, if the leach field is not functioning, remediation of the system should occur as soon as possible, and no wash water or wastes should be added to the system. Disposal of contaminated material, if required, should comply with federal, state and local disposal requirements.

8. Item- and Material- Specific Best Practices

Walls

Remove and replace wall surfaces (especially those made of absorbent materials, such as drywall or plaster) that show visible signs of staining or are emitting chemical odors. Exceptions may be made if removal of the contaminated material threatens the integrity of the structure. Clean smooth, painted walls (i.e., those without “popcorn” texture) using a detergent-water solution.

Ceilings

Ceilings contain some of the heaviest concentrations of residual meth. Although they have a low potential for human contact, ceilings should be cleaned thoroughly in case they are disturbed in the future. When present, ceiling fans should also be cleaned (or discarded). Any ceiling surface that shows visible signs of staining or is emitting chemical odors should always be removed and replaced. Smooth, painted ceilings that were not removed should be washed with a detergent-water solution and then encapsulated. Encapsulating ceilings should not be used as an initial attempt to eliminate contamination instead of washing. The exception to this will be surfaces that are not amenable to cleaning (such as textured “popcorn” ceilings). Tiled ceilings that show visible signs of contamination or were in areas of suspected high contamination should be discarded. Tiled ceilings in areas of low contamination should be HEPA filter vacuumed and encapsulated. Remove any absorbent building material (such as insulation) that shows visible signs of staining or is emitting chemical odors.

Floors

Before removing or cleaning floors, consider the type of material from which it was made. Resilient flooring such as, sheet, laminate or vinyl tile can be kept unless it is stained or melted. Porous flooring material, such as cork or unfinished wood, should be removed and discarded. Also, consider disposing of floors in high-traffic areas, even when distant from cooking areas, as they often contain high levels of contamination. Always vacuum using a HEPA filter after removing any primary flooring (e.g., carpeting, vinyl, laminate) to remove contaminated dust and other debris from the sub-flooring. In addition conduct a “once-over” washing with a detergent-water solution to subflooring prior to beginning the cleanup of the rest of the structure. Wash floors that will not be replaced with a detergent water solution and re-seal the floors with a product such as polyurethane. Do not cover potentially contaminated flooring with new flooring as this remediation approach does not prevent unrestricted future use of the structure. If ceramic or stone tiles are not removed, they should be washed with a detergent-water solution and then re-glazed depending on the porosity of the tile. It is recommended that grout be ground down, re-grouted and then sealed, or at a minimum, encapsulated with an epoxy-based sealant.

Kitchen Countertops

Because kitchen countertops have high potential for human contact and are food preparation surfaces, there is debate as to whether they should be automatically discarded or whether they can be kept as long as they meet remediation standards. Thus, further research is needed to determine the migration potential of meth (and precursor chemicals) through common types of kitchen countertops. Currently, several guidance documents suggest the following for various types of countertop materials:

- All countertops with visible signs of contamination (e.g., stained, emitting odors, etched) should be discarded.
- Countertops made of porous materials (e.g., wood, granite) should be discarded.
- Countertops made of solid materials (such as Corian®) can be sanded down and washed with a detergent water solution.
- Countertops made of stainless steel can be washed with a detergent-water solution.
- Countertops made of ceramic and stone tile should be removed when in high-contact areas. If ceramic or stone tiles are not removed, they should be washed with a detergent-water solution and possibly re-glazed (depending on the porosity of the tile). At a minimum, grout should be encapsulated with an epoxy-based sealant or ground down, re-grouted and then sealed after wash/rinse activities are completed.

Concrete, Cement and Brick

Exposed painted or unpainted brick, concrete and cement should be washed with a detergent-water solution. Most guidance documents also recommend power-washing concrete and cement as long as a water collection system such as a wet vac is used to absorb excess moisture. Because brick is an especially absorbent material, it can absorb cleaning solutions used in the wet cleaning method. In areas of suspected high contamination, the removal of concrete, cement and brick materials should be left to the discretion of the property owner/clean-up contractor if the removal could impact the integrity of the structure. In such cases, encapsulation methods can be used after washing procedures to add an extra layer of protection.

Appliances

Discard all appliances, electronics and tools that show visible signs of contamination. Also dispose of large and small appliances that could have been used in the production of meth or storage of meth products (e.g., refrigerators, stoves, ovens, microwaves, hotplates, toaster ovens, coffee makers). In order to protect handlers at waste or recycling facilities who may come into contact with appliances, the outside of appliances should be washed before the items are discarded. Be sure to render appliances unusable so that they will not be reused even if they are brought to a recycling facility. It is generally agreed that large appliances, electronics and other tools should be evaluated on a case-by-case basis. Further research is needed to determine whether it is safe to continue to use appliances that were located in a former meth lab. Some guidance documents suggest washing with a detergent-water solution the exteriors and interiors of large appliances that were not exposed to high concentrations of meth and show no visual contamination.

Wood

Consider the porosity, the degree of exposure (e.g., a wooden hand rail vs. a section of wainscoting high on the wall), level of contamination and the quality of the finish on wooden materials or items when deciding whether to discard or clean them. As a general principle, discard (in a manner to prevent reuse) any wooden surface or item that shows visible signs of contamination (e.g., stained, emitting odors, etched). If wooden materials or items are not discarded, wash the items using a detergent-water solution. Additionally, cleaned surfaces should be encapsulated with a non-water based sealant. Untreated wood will absorb moisture if detergent-water washing or power-washing techniques are used. Be sure to collect excess water using a wet vac to dry the unfinished wood in order to prevent the growth of mold. Encapsulate the wood after cleaning and sampling.

Windows

Window glass can be cleaned at the same time as walls. Glass should be triple-washed using a standard household glass cleaner. Clean cloths and solution should be used for each washing. Wooden trim and hard plastic trim and tracking should be washed with a detergent-water solution and sealed if it is not removed and replaced. Stainless aluminum tracks and trim are often difficult to clean. If track and trim cannot be adequately cleaned it should be removed and replaced. Window curtains should be removed and replaced if washing is not possible.

Electrical Fixtures, Outlets and Switch Plate Covers

It is generally agreed that electrical outlet covers and wall switch plate covers should be replaced. These items are low in cost, tend to be high collection points for meth and also have great potential for repeated human contact. If electrical fixtures are not discarded, wash them using a detergent-water solution. Always shut off power before removing electrical fixtures, outlet covers and switch covers. When using wet cleanup methods for electrical fixtures exercise extreme caution. Ensure that the parts handling electricity do not get wet and that the fixtures are completely dry before reassembly.

Dishes, Flatware and Other Hard Non-Porous Household Goods

Dishes, flatware and other hard non-porous household goods including ceramics, hard plastics, metals and glass should be discarded to prevent reuse if they show any signs of having been used during the meth cooking process (i.e., acid etched or chemical staining). Dispose of all plastic infant bottles, nipples and any infant/toddler eating utensils or dishes in a manner to prevent reuse, regardless of their contamination level. Wash all items made of ceramic, metal, hard plastic or glass that were not used in the meth cooking process, using a detergent-water solution.

Toys and Other Children's Items

Infant toys that have the potential to be placed in the mouth (e.g., teether, pacifier, rattle) as well as any toys that show visible signs of contamination (e.g., stained, emitting odors, etched) should be disposed of in a manner that prevents reuse. Stuffed and other porous toys are very difficult to clean and should be discarded. It is generally agreed that toys made of metal or hard plastic may be washed using a detergent-water solution. The decision to decontaminate or dispose of softer plastic toys, items with electronic features or toys that have small crevices should be left to the discretion of the residential real property owner/cleanup contractor (but disposal is highly recommended). Exceptions can be made for medical items (e.g., eye glasses, artificial limbs) if they are effectively cleaned.

Carpets

Remove all carpet and discard it in a manner that prevents reuse. Do not HEPA filter vacuum, steam-clean or shampoo carpet. Carpet should always be discarded rather than cleaned because it is extremely difficult to remove all of the contamination from the fibers and weave of the carpet. Additionally, carpet padding and flooring beneath carpet in a former meth lab are often contaminated. Leaving the carpet in place could pose a threat to future occupants who may decide to remove the carpet and unknowingly come into contact with this contaminated padding or flooring.

Clothing and Other Fabrics

Discard clothing or fabrics with visible staining or contamination. Machine-washable clothing may be safely cleaned in a washing machine. If a washing machine is used to wash potentially contaminated fabric, consider the following:

- Use the washing machine available on-site. Do not wash contaminated fabric off-site.
- Run an empty load before washing the fabric.
- Wash fabric three times in small- to medium sized loads using the cycle setting that is normally recommended for the fabric type.
- Use a standard laundry detergent. Do not use detergents with bleach, oxidizing detergents or fabric softener.

- Do not dry items between washes. After washing items three times, bag the items and take them off-site to dry.
- Run an empty load after contaminated items have been washed before using the washing machine again. Discard non-machine-washable fabrics in a manner that prevents reuse. Exceptions may be made in some cases for items of intrinsic value, such as a wedding dress, if the owner understands and accepts the risk associated with keeping it. Do not dry clean items, as doing so could contaminate other people's clothing.

Leather or Fabric Upholstered Furniture

Discard upholstered furniture. In some cases, however, furniture can be stripped of its upholstery (including cushions) and cleaned like hard furniture with a detergent-water solution. Always discard plastic furniture. Destroy furniture before discarding it to prevent it from being reused.

Mattresses

Most guidance documents suggest that mattresses should always be discarded. However, some guidance documents note that a mattress can be saved when:

- the mattress was far removed from the area of cooking; and
- the mattress was not located in a room serviced by the same HVAC system as the room in which meth was cooked.

Paper Items/Books

Discard paper items and books found in the former meth lab. Exceptions may be made for important legal documents or photographs, papers or books of historical value.

Mobile Home Residences

Generally speaking, mobile home residential real property should be cleaned like any other structure identified as a meth production site. However, past experience with the cleanup of mobile homes, campers, recreation vehicle (RV) and other mobile residences (such as vehicles) indicate that they may contain more porous/absorbent materials than fixed structures. For this reason, it may be found to be cost-prohibitive to thoroughly clean the structure. Disposal may be considered a more cost-effective option. If disposal is the option, a thoroughly effective demolition must take place to prevent a reuse, recycle or salvage of the mobile home or recreational vehicle.