



State of North Carolina

Illegal Methamphetamine Laboratory Decontamination and Re-occupancy Guidelines

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I. INTRODUCTION

This document is a resource for decontamination of illegal methamphetamine laboratories. These guidelines are an effort to provide information for use during the contamination reduction (decontamination) process at clandestine or illegal drug manufacturing sites. The basis for these recommendations is available information of the known physical properties of the chemicals associated with drug production.

When following these guidelines, remember that manufacturing methods of methamphetamine and the chemical hazards associated with these activities will change. The health effects from numerous by-products produced by manufacturing these drugs are unknown. Illegal drug manufacturing is changing dynamically and there are no absolute guarantees that chronic health effects will be completely eliminated by decontaminating these properties.

II. PURPOSE

The purpose of this document is to provide health officials, responsible parties, and contractors with a discussion of the rules for Decontamination of Methamphetamine Sites. A responsible party is defined as an owner, lessee, operator, or other person in control of a residence or place of business or any structure appurtenant to a residence or place of business who has knowledge that the property has been used for the manufacture of methamphetamine. These rules have been published in response to North Carolina General Statute 130A-284. The rules are in Title 10A (Department of Health and Human Services), Chapter 41 (Epidemiology Health), Subchapter 41D- Decontamination of Methamphetamine Sites, sections .0101 through .0105 (10A NCAC 41D .0101-.0105). In discussing these rules, this document provides uniform guidelines, based on the rules, for reducing the contamination at illegal methamphetamine manufacturing sites. The intent of this document is to give the user a standard plan of action. Each illicit site and manufacturing process is different and the user must develop a unique site specific plan.

The goal of decontaminating an illegal methamphetamine site is to reduce the levels of contaminants, enabling the site to be re-occupied. It is emphasized that these guidelines are intended for use after law enforcement officers have concluded their operations and bulk chemical removal is completed.

III. BACKGROUND

Amphetamine generically refers to any member of a class of drugs that has an amphetamine base. Methamphetamine is a stimulant that can be snorted, smoked, taken orally, or injected. Methamphetamine is the most common illicit amphetamine and is the most commonly synthesized controlled substance. Street names for methamphetamine include: batu, black beauties, chalk, copilots, crack meth, crank, cristy, crystal, dexies, drivers, glass, go, go fast, hanyak, Hawaiian salt, hearts, hiropon, ice, kaksonjae, L.A. turnarounds, leapers, meth, pep pills, quartz, shabu,

speed, thrusters, ups, uppers, wake ups, wire, and zip. Clandestine methamphetamine laboratories account for more than 90% of all illegal drug seizures in recent years in the United States.

Illegal methamphetamine labs have been found in many North Carolina counties. However, the majority have been located in the western parts of the state. In 2001, there were 34 methamphetamine labs discovered in North Carolina; in 2004, there were 322 labs discovered. These labs pose multiple dangers to both public health and the environment. Methamphetamine labs can be set up almost anywhere. Common lab locations include: vehicles, motor homes, neighborhood homes, rental storage units and motel rooms. Most labs in North Carolina have been found in private residences and hotels/motels. Some of these homes have children living in them and exposures to the chemicals have caused respiratory symptoms in the children. Several law enforcement lab closures (busts) have required neighborhoods to be evacuated due to the dangers associated with the labs.

IV. OVERVIEW OF MANUFACTURE

The illegal meth lab manufacturers typically produce methamphetamine using the precursors ephedrine hydrochloride (HCl), pseudoephedrine HCl, and other essential chemicals. Most of the chemicals needed to produce methamphetamine are easily obtained or can be manufactured clandestinely. These chemicals present numerous hazards both during the production process and when they are discarded.

There are two primary ways methamphetamine is manufactured in North Carolina. The red phosphorus ("Red P") method is most common in the western part of the state. This method is the reduction of ephedrine/pseudoephedrine with hydriodic acid and red phosphorus. These labs have the following unique dangers; phosphine gas production, acid gas generation, acutely corrosive and toxic atmospheres, flammable and explosive atmospheres and oxygen deficient atmospheres. The Birch reduction (ammonia method), also known as the "Nazi" method or "sodium metal" method is predominant in the eastern part of the state. This method uses lithium metal and anhydrous ammonia in the reduction of ephedrine/pseudoephedrine. These labs also come with a unique set of dangers; electroplating sodium metal from sodium hydroxide; sodium hydroxide may cause skin or lung irritation; a flammability and irritant toxicity hazard from concentrated ammonia atmospheres; the violent reaction of water with sodium or lithium metals; a flammable, explosive atmosphere; the acutely reactive metals used may create an acutely corrosive atmosphere. Lead and mercury were formerly important contaminants with older methamphetamine manufacture, but are less prevalent in current labs.

The danger of chemical fires and explosions extends beyond methamphetamine manufacture. After producing the finished methamphetamine, clandestine lab workers are typically left with 5-6 pounds of hazardous waste for each pound of finished methamphetamine produced. Waste may consist of corrosives and flammables.

HAZARDOUS CHEMICALS IN ACTIVE ILLICIT METHAMPHETAMINE LABORATORIES

A. HAZARDS OF MANUFACTURING

Many of the hazards associated with clandestine laboratories are caused by the ingredients used and the by-products produced. For persons making drugs and family and children present during manufacture, the most dangerous chemicals include: solvents, due to their volatility and risk of fire and explosion; corrosive agents, including acids and sodium hydroxide; metals/salts and reaction by-products, such as phosphine gas. Concentrations of gases and solvents will be highest during the cooking process.

Solvents like acetone, Freon, methanol, toluene, trichloroethane, and xylene are common in meth labs. They can be absorbed after ingestion, inhalation or dermal contact. Corrosives, including acids and alkalis (bases), cause chemical burns by direct contact with the skin; by ingestion; and by inhalation. Commonly used corrosives are anhydrous ammonia, hydrochloric acid, sodium hydroxide, sodium thiosulfate, and sulfuric acid (drain cleaner). A potential byproduct, phosphine gas, is extremely flammable and explosive, and is a respiratory tract irritant. Metals and salts routinely found at labs include iodine, red phosphorus, lithium and sodium metal. These can affect or cause irritation to all major body systems.

B. HAZARDS OF INACTIVE AND FORMER LABS

First responders (law enforcement personnel, paramedics, emergency medical technicians, firefighters, and hospital employees), those responsible for cleanup, and individuals re-occupying improperly decontaminated areas may be at risk from small containers of chemicals that were not removed during the bulk decontamination. Chemicals with low volatility would be expected to pose the greatest exposure hazard from residual contamination. Additionally powders from the drug itself or chemicals used in the manufacture may still be present on various surfaces and pose a risk. If the facility has been adequately ventilated, then inhalation risk from solvents and gases should be low as most would have volatilized. See Appendix A for a list of chemicals commonly found in methamphetamine labs.

V. EXPOSURE RISK

The risk of human exposure varies considerably depending on the lab process, quantity, and form of chemicals. Also, there is greater risk of chemical exposure at a site where a lab is actively producing drugs than at a site where drugs were formerly produced.

A. ACTIVE LABS

A functioning drug lab presents the greatest risk of adverse health effects for occupants. A site found to be an illegal drug manufacturing site must be considered unsafe for entry, except by trained personnel using appropriate personal protective equipment. Acute injury with immediate onset of symptoms from a massive chemical exposure is a significant health risk related to illegal methamphetamine manufacture.

Dangers of fire and explosion comprise the greatest risk due to the large amounts of solvents normally found at these sites. Another potential risk of toxic exposure occurs as a result of the “cook” setting “booby traps.”

A chemical spill could produce air concentrations great enough to cause adverse symptoms from inhalation of solvents or corrosives. The drug manufacturing process could also generate sufficient amounts of toxic gases to produce symptoms. The levels of airborne chemicals will vary considerably depending on the manufacturing method, quantity of chemicals present, size of the room, and ventilation.

B. FORMER LABS

After removal of the illicit laboratory equipment and chemicals, residual amounts of some substances may persist on building surfaces and furnishings prior to decontamination. Residual substances could include; methamphetamine, other drug powders, powders from chemicals used in manufacturing, iodine, and chemicals with low volatility. Substances such as gases or volatile solvents present in the active lab will dissipate rapidly with ventilation, unless there has been a spill and a residual pool of liquid remains.

VII. IMPLICATIONS FOR HUMAN HEALTH

Some chemicals used in methamphetamine production present a danger of injury from fire or explosion. In addition, at the lab site there are possible risks of exposure to infectious agents (e.g., HIV, hepatitis B) in the event of skin puncture by drug paraphernalia. Risk of injury or toxicity from chemical exposure depends on the chemicals' toxic properties, quantity, form, concentration, and duration and route of exposure. Systemic absorption of chemicals or injury may occur by one or more of the following routes of exposure:

- inhalation;
- skin exposure;
- ingestion (swallowing); and
- injection.

Inhalation and/or skin exposure are the most likely routes of exposure for persons exposed to the drug lab environment. There is the potential of toxicity from all routes of exposure to the chemicals in a drug lab; i.e., ingestion and injection of the drug, absorption of chemicals spilled onto the skin, adsorption of chemicals deposited onto the skin from vapors, and inhalation of vapors. Due to their continuing brain development and special developmental behaviors (such as crawling on the floor and placing objects in their mouths), infants and young children may be at a greater health risk from exposure to chemicals and drugs in methamphetamine laboratories.

Inhalation or skin exposure may result in injury from corrosive substances, with symptoms ranging from respiratory symptoms of shortness of breath, cough, and chest pain, to burns of the skin. Many solvents are absorbed into the body through the lungs and, if the dose is sufficient, may cause neurological symptoms such as intoxication, dizziness, lack of coordination, disorientation, and nausea. The skin, to a lesser extent, may also absorb some solvents if chemicals remain in direct contact. Ingestion of chemicals will result in the greatest risk of toxicity. A child may accidentally ingest these chemicals, if residual chemical is present on surfaces.

The final methamphetamine product has considerable potential for adverse effects in the drug user and persons accidentally exposed. Residual methamphetamine present on surfaces may pose a risk to small children. In addition, drugs produced in drug labs contain an abundance of contaminants and by-products that do not have predictable effects on the drug user. Impurities found in some drugs produced in drug labs have resulted in severe and permanent neurological disability following intravenous injection. As state and federal agencies reduce the availability of precursors by regulation and enforcement, it can be anticipated that the lab operator or "cook" will resort to more exotic methods of production, resulting in the creation of contaminants and by-products with unexpected and potentially serious adverse effects to the drug user.

VIII. MEDICAL-MONITORING FOR OCCUPANTS OF HOMES WHERE METHAMPHETAMINES ARE MANUFACTURED

A thorough medical evaluation should be performed on residents of homes where methamphetamines are manufactured. Because a variety of metals, corrosives and solvents are used in the manufacturing process, the physical examination must focus on several body organ systems that include the following considerations:

- Acids, bases and many metals are corrosives so the examiner must evaluate the eyes, mucus membranes and skin.
- Solvents can affect the liver and nervous system, so the examiner must carefully evaluate for inflammatory effects on the liver and for peripheral neurologic effects. Also a mental status exam for central nervous system (CNS) effects including narcosis should be performed.

- Additionally, both corrosives and solvents may affect the airways and cardiac system, so a cardiopulmonary evaluation must be performed. If there is a suggestion of pulmonary or cardiac effects, consideration of a chest X-ray, pulmonary function testing and an electrocardiogram (ECG) is in order.
- A urinalysis, liver panel, electrolytes with blood urea nitrogen (BUN) and creatinine, and complete blood count (CBC) must be performed routinely as exposure to solvents and metals may affect the kidneys, liver and bone marrow.
- Depending on the cooking process and conditions in the residence, other laboratory evaluation may be necessary. For example, blood lead and urine heavy metal analysis may need to be performed.
- Because of the possibility of exposure to needles in these homes, testing for Hepatitis B, C and HIV is recommended.
- If the child or adult has symptoms of abnormal behavior, a drug screen must be performed.
- Psychological evaluation and counseling may be needed.

IX. BULK DECONTAMINATION

Bulk decontamination is the removal of containers of chemicals and chemical waste found on site at an illegal methamphetamine lab. This process is contracted to a cleanup company through the North Carolina State Bureau of Investigation (SBI). The SBI follows protocols in accordance with the Drug Enforcement Administration (DEA), so that the contractors meet specific training requirements and bulk removal costs are paid through DEA.

X. RESIDUAL DECONTAMINATION

Residual decontamination is the cleanup of the lab performed after bulk removal is complete.

A. PRE-DECONTAMINATION ASSESSMENT

Discussion of Subchapter 41D .0102 Pre-Decontamination Assessment:

The assessment is accomplished by collecting and evaluating information compiled by law enforcement and other agencies involved with the site. Assessment includes the following steps:

1. Contact hazardous materials (HAZMAT) team member(s) or law enforcement personnel to collect specific methamphetamine lab information including:
 - duration of lab operation;
 - drugs known to be manufactured;
 - recipes and methods used;
 - chemicals and equipment found; and
 - location of contaminated cooking and/or storage areas.
2. Determine whether the heating, ventilation, air conditioning (HVAC) system serves more than one unit or structure such as motels, apartments, row-houses or multiple-family dwellings to determine whether contamination entered other residences or rooms. Chemicals/drug contamination may be spread to other rooms serviced by the same HVAC system.
3. Assess the plumbing system for visible contamination such as etching or staining and any chemical odor from the drain. Plumbing fixtures may be etched and stained beyond normal wear and tear because of contact with chemicals.
4. Conduct a visual assessment of the severity of contamination inside and outside of the structure where the lab was located:
 - document any visible chemical spills;
 - assess adjacent rooms, units, apartments or structures for contamination, e.g. chemical odors, staining, chemical spills; and
 - determine whether disposal methods used by the “cooks” at/near the lab site (e.g., dumping, burning, burial, venting, and drain disposal) caused contamination of soil, groundwater, on-site sewage disposal systems, or other environmental contamination.
5. Develop a plan for waste disposal in accordance with the rules and statutes administered by the North Carolina Department of Environment and Natural Resources, Division of Waste Management for materials removed from the structure and wastes produced during the cleaning, including solid waste, hazardous waste, and household hazardous waste produced. Contact landfills/disposal sites for disposal approval.
6. Determine whether the severity and type of contamination creates a risk of explosion or fire and thereby requires disconnection of power sources to the

structure until after decontamination is complete. It may be possible for flammable vapors to have accumulated in confined spaces.

7. Determine the necessary personal protective equipment needed for cleanup workers. Personal protective equipment may include: protective clothing, gloves (leather and chemical resistant), eye protection, leather shoes and respirator.
8. Notify the local health director of potential contamination of septic systems, soil, or groundwater. Abnormally stained plumbing fixtures, dead vegetation, and burn piles are indicators of possible chemical contamination.
9. Notify the lead law enforcement agency for the site if lab remnants or other evidence of methamphetamine manufacturing is discovered that may have been overlooked during bulk decontamination. Occasionally some items may be missed during the initial cleanup. Any glassware, chemicals or unmarked containers should be reported.
10. Document and retain for three years findings of the pre-decontamination assessment and provide a copy to the local health department (in accordance with rule .0104). A form is provided in Appendix C for this purpose.

Other Considerations:

The objective of the preliminary assessment is to determine the scope of remediation needed at a former illegal methamphetamine lab site. Asbestos and lead-based paint may also be encountered and should be considered during assessment. Although the responsible party may perform the pre-decontamination assessment, he/she may choose to hire contractors experienced in hazardous chemical cleanups (see Appendix B for suggested qualifications).

B. DECONTAMINATION

Cleanup is based on the pre-decontamination assessment. Again the responsible party may perform the decontamination, or the responsible party may choose to have decontamination performed by persons who have completed hazardous materials training and are experienced in hazardous chemical cleanups. A list of contractors willing to perform methamphetamine decontamination may be available from your local health director. All activities related to the cleanup must be documented. See Appendix D for a suggested form. Properties are subject to inspection at the discretion of the local health director to determine the adequacy of decontamination work.

1. VENTILATION OF THE STRUCTURE THROUGHOUT CLEANUP

Discussion of Subchapter 41D .0103 Decontamination (1)(A-C):

During a criminal investigation and bulk chemical decontamination, the lab site is generally vented for the safety of on-site personnel. However, it may be sealed, for security reasons, when law enforcement and HAZMAT crews leave the scene. Short-term venting may not be sufficient to clear all contaminants from the air inside the structure. Do NOT operate the HVAC system until cleanup is completed. A former lab site must be vented for a minimum of two days before decontamination is started. Use fans, blowers and/or negative air machines to vent the structure. Open all windows and use exhaust fans to exhaust air out of the house. Care must be taken that vented contaminants are exhausted to the outdoors and not to the air intakes of adjacent structures. After the initial airing, ventilation must be continued throughout the decontamination. The property should be protected from adverse weather effects during this time period (i.e. rain, freezing temperatures, etc.).

Other Considerations:

An approved respirator may be necessary especially if adequate ventilation cannot be obtained.

2. REMOVAL OF SYRINGES AND OTHER BIOHAZARDOUS WASTE

Discussion of Subchapter 41D .0103 Decontamination (2):

Syringes or other drug paraphernalia that may be contaminated with blood or other bodily fluids must be properly disposed of in puncture proof containers.

Other Considerations:

Thick work gloves and leather shoes should be worn to prevent exposure to needle sticks. Rigid plastic containers, such as laundry detergent bottles, may be used for syringe disposal.

3. EVALUATION AND REMEDIATION OF CHEMICAL REMNANTS AND SPILLS

Discussion of Subchapter 41D .0103 Decontamination (3)(A-E):

Liquids must be tested to determine their corrosivity using litmus (pH) paper. Acids should be neutralized with weak basic solutions; and bases

neutralized with weak acidic solutions. Litmus (pH) paper should be used to check for neutralization to a pH of 6-8. Liquids can be absorbed with a non-reactive material and packaged for proper waste disposal. Solids must be packaged for proper waste disposal.

Other Considerations:

Eye protection, chemical resistant gloves, leather shoes, and coveralls should be worn to prevent chemical contact. Acids may be neutralized with a weak basic solution (e.g., sodium bicarbonate/baking soda); and bases neutralized with weak acidic solution (e.g., vinegar, citric or acetic acid). Working with corrosives can be dangerous for persons unfamiliar with their properties; litmus (pH) paper should be used to check for a neutral surface after treatment. Litmus paper is available for purchase on-line, at chemical supply companies, drug stores, etc. Liquids can be absorbed with clay or another non-reactive material and packaged for proper waste disposal. Solids can be scooped up and packaged for proper waste disposal.

4. REMOVAL OF POROUS MATERIALS AND HOUSEHOLD FURNISHINGS

- **Machine washable fabrics, bed coverings, clothing or draperies**

Discussion of Subchapter 41D .0103 Decontamination (4):

Absorbent materials can accumulate vapors that are dispersed during the cooking process, or can collect dust and powder from chemicals used in drug manufacture. Machine washable porous materials, such as draperies, bed coverings, and clothing in rooms assessed as contaminated and rooms serviced by the same HVAC system as the room where methamphetamine was manufactured must be washed two times with detergent and water or disposed of in accordance with the waste disposal plan.

Other Considerations:

If disposal of machine washable porous materials is considered, the materials should be disposed of in a manner to prevent re-use (salvaging).

- **Upholstered furniture, mattresses, carpet or other non-machine washable fabrics**

Discussion of Subchapter 41D .0103 Decontamination (4):

Non-machine washable porous materials, such as upholstered furniture and mattresses, in rooms assessed as contaminated and rooms serviced by the same HVAC as the room where methamphetamine was manufactured

must be disposed of in accordance with the waste disposal plan. All carpeting that is part of the same dwelling unit where methamphetamine was manufactured must be disposed of in accordance with the waste disposal plan.

Other Considerations:

All items removed should be disposed of in a manner to prevent re-use (salvaging).

5. EVALUATION AND DECONTAMINATION OF PLUMBING AND VENTILATION (HVAC) SYSTEMS

• **Plumbing**

Discussion of Subchapter 41D .0103 Decontamination (5)(A):

“Cooks” in meth labs often burn or dump solid wastes outside the structure. Most liquid chemical by-products are dumped into bathtubs, sinks, drains, and toilets. These chemicals and contaminated wastes can collect in drains, traps and septic tanks; sewerer wastes may give off chemical vapors. Plumbing fixtures that are visibly contaminated (chemical etching, chemical staining, or chemical odors present) beyond normal household wear and tear must be removed and disposed. Staining, etching or chemical odors indicate dumping into municipal sewer systems; therefore household plumbing must be flushed. Plumbing fixtures that are not removed must be cleaned.

Other Considerations:

All plumbing fixtures removed pursuant to these rules should be disposed of in a manner to prevent re-use (salvaging).

• **Ventilation systems**

Discussion of Subchapter 41D .0103 Decontamination (5)(B):

HVAC systems tend to collect vapors and dust and redistribute them throughout the structure. The vents, ductwork, filters, walls and ceilings near ventilation ducts become contaminated. The responsible party must replace all filters in the system, remove and clean supply diffusers and vents. Surfaces near system inlets and outlets must be cleaned. Any HVAC system that is constructed of non-porous material such as sheet metal or the equivalent must be high efficiency particulate air (HEPA) vacuumed and washed two feet into the ductwork from the opening.

Internally insulated ductwork must be removed two feet from the opening and replaced.

6. APPLIANCES

Discussion of Subchapter 41D .0103 Decontamination (6):

All appliances (such as refrigerators, stoves, hot plates, microwaves, toaster ovens, and coffee makers) used in the manufacture of methamphetamine or storage of associated chemicals must be disposed of in accordance with the waste disposal plan. Appliances that are not removed must be cleaned.

Other Considerations:

Appliances removed pursuant to this rule should be disposed of in a manner prevent re-use (salvaging).

7. DETERGENT WASHING OF CONTAMINATED NON-POROUS SURFACES

Discussion of Subchapter 41D .0103 Decontamination (7):

Removable non-porous items must be cleaned and moved to an area that is free of contamination. Interior surfaces such as walls, wood flooring, ceilings, paneling, countertops and non-porous surfaces can adsorb contamination from the methamphetamine cooking process. In rooms assessed as contaminated and rooms serviced by the same HVAC system as the room where methamphetamine was manufactured, interior surfaces must be scrubbed using a household detergent solution and then rinsed with clear water. First clean the ceiling, next clean walls and finally clean the floors. This procedure must be repeated two additional times using a fresh detergent solution and fresh rinse water with each cleaning of each surface (ceilings, walls, and floors). If a surface has visible contamination or staining, or if an odor emanates from a surface, that surface shall be rewashed, painted with a non-water based paint until the odor and visible contamination is no longer observable. If staining or odors persist the surface must be removed. Room(s) used for the manufacture of methamphetamine must have ceilings and walls painted with a non-water based paint after cleaning. Resilient floor covering(s), such as sheet, laminate or tile vinyl, in the room(s) used for the manufacture of methamphetamine shall either be removed and replaced, or after cleaning, covered in place with new floor coverings. Ceramic or stone tiled surfaces, (floors, countertops, walls, or other ceramic or stone tiled surfaces) in the room(s) used for the manufacture of methamphetamine shall be removed

after cleaning, re-glazed or have grout stained using an epoxy-based stain. Wooden materials (floors, walls, ceilings, cabinets, or other wooden materials) in the room(s) used for the manufacture of methamphetamine shall be removed or after cleaning, sealed with a non-water based coating.

Other Considerations:

Cleaning personnel and others must avoid contact with all surfaces before and during cleaning to avoid injury. Personnel should wear appropriate personal protective equipment which could include gloves, protective clothing, and eye protection. Personal protective equipment should not be removed from the worksite or re-used after decontamination of a methamphetamine laboratory. These materials should be disposed in the same manner as other waste associated with the lab.

After cleaning, interior surfaces should be coated with a non-water based paint, such as oil-based paint, epoxy, or polyurethane. When paint or another physical barrier is applied, the coating must be allowed to dry for the time stipulated by the manufacturer. Complete coverage may require more than one coat. These areas should be monitored and the coating maintained to assure that the contamination is contained. If staining, odors or discoloration appear after the coating dries, replacement of that surface section may be necessary. Ventilation should continue throughout cleaning and surface coating.

8. FINAL VENTILATION FOR AT LEAST 3 DAYS

Discussion of Subchapter 41D .0103 Decontamination (8):

After cleaning is complete, the property must be aired out for at least three days to allow for remaining volatiles to disperse. Open all windows and use exhaust fans to exhaust air out of the house. During this time, the property must remain off limits unless it is necessary to make short visits. The property should be protected from adverse weather effects during this time period (i.e. rain, freezing temperatures, etc.). After the cleaning and final airing, the property must be checked for re-staining and odors.

9. ELEMENTS OF OUTDOOR CLEANUP OF ILLEGAL DRUG LAB SITES

Discussion of Subchapter 41D .0103 Decontamination (9):

All outdoor cleanup must be completed in accordance with the rules established by the North Carolina Department of Environment and Natural Resources. Outdoor contamination may be remediated by using one or more of the following: waste removal; drainage control; removal or treatment of contaminated soils or water; provision for alternate water supplies when

water sources are contaminated; and/or site controls, such as fencing or signs.

XI. POST-DECONTAMINATION SITE ASSESSMENT

Discussion of Subchapter 41D .0104 Post-Decontamination:

The responsible party shall notify the local health department upon completion of the decontamination process. The responsible party shall provide a copy of the pre-decontamination assessment and the decontamination activity documentation to the local health department. See Appendices C and D. The local health department shall review the documentation to determine if the responsible party has documented activities addressing all requirements of the rules. The health department shall immediately notify the responsible party in writing if it determines that the documentation is incomplete. The local health department shall retain this documentation for three years.

Other Considerations:

If you are concerned about any remaining contamination after cleaning your residence or rental property, you may choose to have the property tested for chemical residues. You may want to contact your insurance carrier for advice and assistance.

Methamphetamine decontamination efficacy can be assessed by an independent contractor by collecting wipe samples. Wipe sampling is limited to collection of samples from hard, relatively smooth, non-porous surfaces. This practice is not intended for collecting samples from surfaces with substantial texture such as rough concrete, brickwork, and textured ceilings. Wipe samples may be collected from the wall, floor, sink, countertops, range exhaust hood, ventilation system outlet and other surfaces deemed necessary by the contractor. A composite wipe sample consisting of a maximum of four sample locations should be collected in each contaminated room of the structure. It may be necessary to collect more than one composite sample per room. Individual samples may be collected, if desired. The recommended clearance level for methamphetamine is 0.1 micrograms per 100 square centimeters ($0.1\mu\text{g}/100\text{ cm}^2$). If the sample result(s) is (are) greater than this number, then the decontamination process should be repeated until the wipe sample(s) result is (are) less than 0.1 micrograms per 100 square centimeters ($0.1\mu\text{g}/100\text{ cm}^2$). Meeting this recommended clearance level does not imply that the dwelling is safe to occupy, but rather is offered as an achievable decontamination level.

If the phenyl-2-propanone (P2P) method of methamphetamine manufacture, which has not been documented in recent years in North Carolina, is used, then additional samples for lead and mercury should be considered. The recommended clearance level for lead is 4.3 micrograms per 100 square centimeters ($4.3\mu\text{g}/100\text{ cm}^2$). If the sample result(s) is (are) greater than this number, then the decontamination process should be repeated until the wipe sample result(s) is (are) less than 4.3 micrograms per 100 square centimeters ($4.3\mu\text{g}/100\text{ cm}^2$). The recommended clearance level for

mercury is 0.3 micrograms per cubic meter (0.3 $\mu\text{g}/\text{m}^3$). If the sample result(s) is (are) greater than this number, then the decontamination process should be repeated until the sample result(s) is (are) less than 0.3 micrograms per cubic meter (0.3 $\mu\text{g}/\text{m}^3$).

Additional sampling may be necessary for asbestos and/or lead-based paint, especially in instances where wallboard or ceiling removal is required.

XII. ENFORCEMENT

Discussion of Subchapter 41D .0105 Enforcement:

The local health department may inspect the property prior to, during or after decontamination to enforce the provisions of these rules. The local health department may enforce the provisions of these rules in accordance with Article 2 of Chapter 130A of the N.C. General Statutes.

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APPENDICES

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APPENDIX A

Common Names/Uses for Chemicals in Methamphetamine Laboratories

Chemical	Common Name or Use
Acetone	Fingernail polish remover, solvents
Acetic acid	Vinegar
Alcohol, isopropyl	Rubbing alcohol
Ammonia (anhydrous)	Fertilizer, used in chillers
Benzene	Dye, varnishes, lacquers
Ether	Starter fluid, anesthetic
Ethyl ether	Computer dust-off
Ethyl alcohol/Ethanol	Grain alcohol
Freon	Refrigerant, propellants
Hydrochloric acid/muriatic acid	Iron ore processing, mining, concrete cleaner
Hydrogen peroxide	Antiseptic
Iodine (crystals)	Antiseptic, catalyst
Lithium metal	Batteries
Methyl alcohol/methanol	Brake cleaner fluid, gasoline antifreeze
Methyl ethyl ketone	Paint remover, solvent
Methylene chloride	Paint remover, solvent
Naphtha	Mineral spirits, paint thinner
Nitroethane	Fuel additive, solvent
Petroleum spirits	Camp fuel, solvent
Phosphoric acid	Fertilizer
Red phosphorus	Match striker plates, road flares
Sodium hydroxide/caustic soda	Lye, drain cleaner, tile/grout cleaner
Sulfuric acid	Battery acid, drain cleaner
Toluene	Brake cleaner fluid
Trichloroethane	Gun scrubber, solvent/degreaser

Hazardous Chemicals in Methamphetamine Laboratories

Acetone (CAS 67-64-1)

Form: Colorless liquid, sweet fragrant odor

Use: Solvent used in methamphetamine production.

Hazards/ Potential Risks: Irritating to the eyes and skin. Vapors may be irritating, causing irritation of the throat, airways, and lung. Alcohol and other chemicals may increase toxic effects. Flammable or explosive, when mixed with air at room temperature, may explode when exposed to heat or fire. It is a health risk to all individuals exposed during the manufacturing process and those responding to a meth lab fire.

Ammonia (CAS 7664-41-7)

Form: Gas (liquid under pressure), colorless, pungent odor

Use: Reagent in methamphetamine synthesis, Nazi method. Used as liquid for reaction since sodium metal is water reactive.

Hazards/Potential Risks: Corrosive and irritant. Reacts with moisture in the mucosal surfaces (eyes, skin and respiratory tract) to produce ammonium hydroxide. Exposure to vapors at high concentrations can result in burns to eyes, nose, pharynx, and larynx. Eye exposure may result in conjunctivitis, lacrimation, corneal irritation, and temporary or permanent blindness. Respiratory exposure may result in bronchospasm, laryngitis, tracheitis, wheezing, dyspnea, and chest pain. Exposure may also result in pulmonary edema and chemical pneumonitis. Skin exposure to concentrated vapors or liquid can lead to deep penetrating burns. Vapors are a health risk to all individuals in the vicinity during the manufacturing process.

Benzene (CAS 71-43-2)

Form: Colorless to light-yellow liquid, aromatic odor

Use: Solvent used in methamphetamine production.

Hazards/Potential Risks: Vapor in high concentration may affect the nervous system causing headache, dizziness, breathing difficulties, coughing, fluid in the lungs, coma, lung, liver, or kidney damage, or death. Prolonged inhalation may lead to anemia or leukemia. Chronic exposure can irritate the eyes, nose, throat and lungs and may affect the central nervous system, bone marrow, and respiratory tract. Symptoms include allergies, confusion, headache, short-term memory loss, coma, or death. Benzene is extremely flammable and vapor may cause a flash fire. Inhalation of the vapors is very hazardous to exposed individuals present during the manufacture, cleanup, and response to fire. Chronic exposure, especially in young children can cause severe health problems.

Ephedrine (CAS 299-42-3)

Form: White crystal, odorless

Use: Precursor in manufacture of methamphetamines.

Hazards/Potential Risks: Irritant to eyes, skin, and respiratory system. Ingestion may lead to headache, rapid pulse, high blood pressure and stroke.

Ethanol (CAS 64-17-5)

Form: Clear, colorless liquid

Use: Used in the production of methamphetamine.

Hazards/ Potential Risks: Inhalation may irritate the nose and throat, causing headache, nausea, vomiting, drowsiness, or confusion. Ingestion can lead to burning sensation, confusion, dizziness, seizures, blurred vision, blindness, unconsciousness, or death. Chronic exposure may lead to headache, lack of coordination, fatigue, damage to nervous system, liver, stomach, and heart. Ethanol and its vapors are extremely flammable, making it a health risk to all present.

Ethyl Ether (CAS 60-29-7)

Form: Colorless liquid, sweet pungent odor

Use: Solvent used in the manufacture of methamphetamine and amphetamine.

Hazards/ Potential Risks: Inhalation or ingestion causes headache, drunkenness, and vomiting. Flammable and highly volatile. In the presence of oxygen or sunlight, unstable peroxides may form, which explode spontaneously or when heated. Inhalation can lead to toxic nervous system effects. It is highly volatile and flammable making it a risk to all those in the vicinity and to individuals responding to a fire.

Freon (see 1,1,2-Trichloro-1,2,2-Trifluoroethane)

Hexane (other isomers)

Form: Colorless liquid, mild characteristic odor

Use: Solvent used in production of methamphetamine.

Hazards/Potential Risks: Extremely flammable. Prolonged exposure can lead to permanent brain and nerve damage with coughing, bizarre behavior, unconsciousness, coma, or death. Flammability makes it a risk to all individuals in the area or responding to a fire. Its health effects from chronic exposure make it harmful to meth lab residents, especially children.

Hydrochloric Acid (Muriatic acid) (CAS 7647-01-0)

Form: Colorless liquid, pungent odor (Muriatic acid refers to an industrial grade of hydrochloric acid)

Use: Reagent used in the manufacture of methamphetamine.

Hazards/Potential Risks: Very corrosive. Causes severe pain and burns on the skin. Inhalation may destroy the lining in the airways, throat, and lungs. Chronic exposure can lead to permanent lung damage. Heating can lead to release of toxic, flammable and explosive gas. Gases released during heating are toxic and also flammable and explosive, making it a hazard to inhabitants of the meth lab; those involved in cleanup, and first responders.

Hydrogen Chloride (CAS 7647-01)

Form: Colorless gas

Use: Used in the manufacture of methamphetamine.

Hazards/Potential Risks: High concentrations are very corrosive and may cause severe burns. Inhalation may cause mild to severe irritation of the nose and throat with possible fluid in the lungs. It is a health hazard to individuals present in the meth lab and those involved in cleanup.

Hydrogen iodide (gas), Hydriodic acid (liquid) (CAS 10034-85-2)

Form: Gas (soluble in water), colorless

Use: Reagent in methamphetamine synthesis, with red phosphorous.

Hazards/Potential Risks: Corrosive and irritant. Exposure can occur to both liquid and gas. Inhalation causes irritation of the throat and upper respiratory tract, and at higher concentrations dyspnea, chest pain, bronchospasm, and pneumonitis. Severe exposures result in pulmonary and laryngeal edema. Will cause severe irritation to the eyes. Skin contact at high concentrations may lead to burns. It is a health risk to both inhabitants of the meth lab and first responders.

Hypophosphorous Acid (CAS 6303-21-5)

Form: Colorless liquid

Use: Used instead of red phosphorus as reagent in methamphetamine.

Hazards/Potential Risks: Corrosive. Causes burns if inhaled or contacts the skin. Extremely destructive to mucous membranes.

Iodine (CAS 7553-56-2)

Form: Solid, purple crystals or flakes, sharp odor

Use: Reagent in synthesis of hydriodic acid.

Hazards/Potential Risks: Corrosive. Ingestion of iodine will cause vomiting, delirium, headache, low blood pressure, and circulatory collapse. Inhalation of iodine vapors is very irritating to the mucous membranes and at high concentrations may lead to pulmonary edema. Skin contact may cause redness and swelling. It can be a risk for those present in the meth lab and individuals involved in cleanup.

Iodine, tincture

Form: Dark red solution with a medicinal odor

Use: Reagent in synthesis of hydriodic acid.

Hazards/Potential Risks: Harmful if inhaled or swallowed. May cause intoxication and severe irritation. Flammability makes it a hazard to all present individuals and those responding to a fire. It is harmful if inhaled and can cause intoxication if swallowed.

Light Hydrotreated Distillate (CAS 68410-97-9)

Form: Liquid

Use: Solvent used to extract methamphetamine.

Hazards/Potential Risks: Vapor may cause delayed lung injury, nervous system depression, convulsions, and loss of consciousness. Irritant to skin and eyes. Can form flammable mixture with air at room temperature. Vapors are a health hazard to individuals during the manufacturing phase.

Lithium aluminum hydride (CAS 1302-30-3)

Form: Solid, white to gray powder, odorless

Use: Used for hydrogenation in multiple processes.

Hazards/Potential Risks: Corrosive. Extremely water reactive, will generate hydrogen gas and explode. It is severely irritating to the eyes, nose, skin, mucous membranes, and lungs. Eye exposure can result in scarring and inflammation. Explosive hydrogen gas is a risk to meth lab inhabitants and first responders.

Methyl Alcohol (CAS 67-56-1)

Form: Clear colorless liquid, characteristic odor

Use: Used in the production of methamphetamine.

Hazards/Potential Risks: Vapors may cause irritation of the eyes, nose, throat, and lungs. Ingestion may lead to headache, nausea, abdominal pain, loss of consciousness, coma, blindness, and brain, pancreas, or kidney damage making it a danger to inhabitants of the meth lab, especially children. It is flammable and therefore a risk to first responders.

Muriatic Acid (see Hydrochloric Acid)

Naphtha (CAS 8002-05-9)

Form: Reddish-brown liquid, aromatic odor

Use: A petroleum distillate solvent used in the manufacture of methamphetamine.

Hazards/Potential Risks: May cause irritation or burns to skin and eyes. Inhalation may lead to central nervous system depression, headache, nausea, dizziness, confusion, and unconsciousness making it a health hazard to individuals present during the manufacturing process.

Phosphine (CAS 7803-51-2)

Form: Colorless gas, fish- or garlic-like odor

Use: Product of methamphetamine production.

Hazards/Potential Risks: Extremely flammable, reacts explosively with air. Inhalation may cause dizziness, dullness, tremors, vomiting, shortness of breath, delayed lung damage and convulsions. Because of its explosive reaction with air, phosphine gas is a hazard to those present in the meth lab during the manufacturing process and first responders. It has been linked to several deaths in meth labs.

Phosphoric Acid (CAS 7664-38-2)

Form: Colorless crystals

Use: Precursor in production of methamphetamine and amphetamine.

Hazards/Potential Risks: Eye irritant causing irritation, tearing, blinking, and burns. Vapor can irritate nose and throat. Exposure to skin results in irritation, redness, itching, swelling, and burns. Chronic exposure may cause allergies, damage to lungs, liver, bloodstream, and bone marrow making it harmful for individuals living in the meth lab, especially children. Contact with metal can cause release of poisonous and explosive phosphine gas.

Pseudoephedrine (CAS 321-97-1)

Form: White crystalline powder

Use: Precursor used in the production of methamphetamines.

Hazards/Potential Risks: Irritant to eyes, skin, and respiratory system. Ingestion may lead to headache, rapid pulse, high blood pressure and stroke.

Red phosphorus (CAS 7723-14-0)

Form: Solid, red to violet, odorless

Use: Catalyst in methamphetamine synthesis.

Hazards/Potential Risks: Red phosphorus is considered relatively non-toxic. If heated it can either produce toxic fumes or convert to yellow phosphorus, which will burn on contact with air, and cause severe burns. If heated in the presence of acid, it can form phosphine gas. It is a serious hazard due to its ability to form phosphine gas in the presence of heat and acid. It is also explosive, making it a possible hazard to individuals involved in cleaning laboratories, dump sites, and to those present in the meth lab during the manufacturing process.

Sodium (CAS 7440-23-5)

Form: Solid, silvery-white metal or crystals, odorless

Use: Used for hydrogenation in methamphetamine synthesis.

Hazards/Potential Risks: Sodium metal is corrosive and extremely water reactive, producing explosive hydrogen gas. Water reaction may also produce sodium hydroxide. Metallic sodium can react with water on skin to cause thermal and chemical burns. It is severely irritating to the eyes, nose, skin, mucous membranes, and lungs. Eye exposure can result in scarring and inflammation. It is a health risk to individual present during manufacturing and first responders.

Sodium Hydroxide (Lye) (CAS 1310-73-2)

Form: White pellets or flakes, odorless

Use: Reagent used in methamphetamine manufacture.

Hazards/Potential Risks: Very corrosive. Contact of the eyes with vapor or powder can cause severe eye burns with permanent damage. Contact with skin causes severe irritation and burns. Inhalation of vapors and dust can lead to burns of the lungs and air passages. Carcinogen if ingested. Contact with metals or fire may produce deadly and explosive hydrogen gas. In the presence of metals or fire, explosive gas may result, making it a hazard to those present in the meth lab and first responders.

Sulfuric Acid (CAS 7664-93-9)

Form: Colorless to yellow viscous liquid, odorless

Use: Reagent used in manufacture of amphetamine, methamphetamine, and P2P.

Hazards/Potential Risks: Contact with eyes causes severe burns, pain, tearing swelling, permanent damage, or blindness. Corrosive to the skin, causing severe deep burns, blistering, swelling, and scarring. Harmful or fatal if inhaled, causing possible lung damage, cough, difficulty breathing, and subsequent respiratory failure. It reacts violently with water to produce toxic and corrosive fumes. Chronic exposure may lead to damage of liver, lungs and kidneys. It presents health risks to those present during manufacturing,

Toluene (CAS 108-88-3)

Form: Clear, colorless liquid, benzene-like aroma

Use: Solvent used in manufacture of P2P and methamphetamine.

Hazards/Potential Risks: Inhalation may cause irritation of the skin, nose, throat, and lungs, as well as nausea, weakness, drunkenness, confusion, and loss of consciousness. It is highly flammable, making it a hazard for first responders as well as those present during the manufacturing process.

1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon) (CAS 76-13-1)

Form: Clear, colorless liquid, slight ethereal odor

Use: Solvent used to extract methamphetamine.

Hazards/Potential Risks: Vapor can cause eye irritation, burning and damage. Inhalation can cause sudden cardiac death. Freon interferes with the heart's rhythm. Symptoms may include slurring, vomiting, drunkenness, coma, and death. This solvent is a serious health hazard to individuals present during the manufacturing process.

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APPENDIX B

Suggestions for Contractor Qualifications and Worker Health and Safety Plans

I. Contractor Qualifications

A contractor's qualifications must include training required by applicable Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency regulations. The following are some standards that may apply:

(This is a summary of the content of the regulations that apply to hazardous site cleanups only. Please refer to the regulation itself for detailed information.)

- **HAZWOPER, 29 CFR 1910.120** - General site workers (such as equipment operators, general laborers and supervisory personnel) engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous substances and health hazards must receive a minimum of 40 hours of instruction off the site, and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor.
- **Personal Protective Equipment, 29 CFR 1910.132** - The employer must provide training to each employee who is required by this section to use PPE. Each such employee must be trained to know at least the following: when PPE is necessary; what PPE is necessary; how to properly don, doff, adjust, and wear PPE; the limitations of the PPE; and, the proper care, maintenance, useful life and disposal of the PPE.
- **Respiratory Protection, 29 CFR 1910.134** – The employer must provide annual, comprehensive, understandable training to employees who are required to use respirators. The training must include the topics required by this regulation, and the employer must ensure that the employee can demonstrate knowledge of those topics by the end of the training.
- **Blood Borne Pathogens, 29 CFR 1910.1030** – OSHA recommends annual training for all employees with potential occupational exposure to blood borne pathogens. Additional initial training is recommended for employees who may be handling the HIV or HBV viruses and is also recommended for contractors responsible for remediating meth lab sites.
- **Lead Paint, 40 CFR 745 Subpart L**– When demolition of the pre-1978 structure and/or removal of building materials is/are involved, contractors must have the workers trained in accordance with EPA 40 CFR 745 Subpart L, 16-hour worker training. In addition, a competent person with the 36-hour supervisor training is required to be on-site at all times.

- **Employee lead exposure, 29 CFR 1926.62** – Employees that may be occupationally exposed to lead (in this case, if lead-based paint on building components is to be disturbed) must participate in a lead-based paint awareness training program which meets the requirements of paragraph (l)(2) of this regulation.
- **Employee asbestos exposure, 29 CFR 1926.1101** – If potentially asbestos-containing building materials are to be ***disturbed, but not removed***, workers must have at least 16-hours of training as specified by OSHA.
- **Asbestos, 40 CFR Part 763 Subpart E, Appendix C** - If asbestos-containing materials are to be ***removed***, workers must have 36-hours of asbestos worker training as required by the EPA. In addition, a supervisor who has received 40-hours of asbestos abatement supervisor training must be on-site at all times. The workers and the supervisor must be accredited, when applicable, through the Health Hazards Control Unit.
- **All applicable provisions in North Carolina General Statutes and Administrative Code; and**
- **Any other applicable requirements.**

II. Worker Health and Safety Plan

If a contractor performs the decontamination then a Worker Health and Safety Plan should be developed by the contractor. The plan should address all applicable Occupational Safety and Health Administration (OSHA), Environmental Protection Agency, and North Carolina statutes and regulations, including the regulations cited above.

APPENDIX C

Pre-decontamination Template

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PRE-DECONTAMINATION TEMPLATE FOR METHAMPHETAMINE SITES

I understand that I must comply with all applicable state and federal laws & regulations.

I certify that the statements in this pre-decontamination report are true and accurate to the best of my knowledge for property located at _____
_____.

Responsible Party Signature

Date

Contractor Signature

Date

CONTRACTOR INFORMATION (if applicable):

Contractor Company Name:
Contractor Mailing Address:
Contractor Phone :
Site Supervisor Name:
Worker Name(s):

PROPERTY INFORMATION

Property Owner Name: _____

Property Owner Mailing Address: _____

Property Owner Telephone Number: _____

If different:

Responsible Party Name: _____

Responsible Party Mailing Address: _____

Responsible Party Telephone Number: _____

Contaminated Property's Physical Address: _____

Tax Assessor's Property Account #/Parcel #: _____

Year Home/Structure was built: _____

Site Description: A **brief** description of property and structures (For example: Property consists of a single-family residence, two storage sheds, city septic and water, pond).

Written, detailed directions for locating the property from the nearest principal marked road:

PRE-DECONTAMINATION ASSESSMENT

Property Address: _____

Agency Reports: Information from Law Enforcement Agencies and/or Local Health Department.

Duration of lab operation (approximate dates) _____

Drugs manufactured _____

Recipes/methods used _____

Chemicals/equipment found _____

Location of contaminated cooking and/or storage areas _____

Assessment of contamination of adjacent rooms, units, apartments or structures _____

Disposal methods observed at/near lab site (e.g., dumping, burning, burial, venting, and/or drain disposal) _____

On Site Survey: Detailed description of real property, and structures. Mention stains, spills, chemicals, biohazards, odors, basements, attics, crawlspaces, distressed vegetation etc.

Floor Plans: Diagram of each structure, indicating areas of stains, heating ducts and vents, attics, basements and crawl spaces.

Describe how you will address the following issues:

- Personal protective equipment

- Asbestos/lead-based paint

- Heating and Air Conditioning systems

- Plumbing

- Appliances (refrigerators, stoves, coffee makers, microwaves, etc)

- Flooring

- Contamination indoors (stains, spills, odors)

- Contamination outdoors (burn piles, distressed vegetation, contaminated soil, and water)

Property Address: _____

- Disposal plan
- Explosion risk
- Septic system and drain field contamination
- Discovery of additional chemical lab remnants

Date local health department provided with pre-decontamination assessment: ____/____/____

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APPENDIX D
DECONTAMINATION TEMPLATE

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DECONTAMINATION TEMPLATE FOR METHAMPHETAMINE SITES

I understand that I must comply with all applicable state and federal laws & regulations.

I certify that the statements in this decontamination report are true and accurate to the best of my knowledge for property located at _____.

Responsible Party Signature

Date

Contractor Signature

Date

CONTRACTOR INFORMATION (if applicable):

Contractor Company Name:
Contractor Mailing Address:
Contractor Phone :
Site Supervisor Name:
Worker Name(s):

DECONTAMINATION PROCEDURES

A detailed description of methods used to reduce contamination.

- Date HVAC disconnected: ____/____/____
- Date ventilation with fans initiated: ____/____/____
- Date decontamination activities initiated: ____/____/____
- Type of personal protective equipment used: _____

- Containerize syringes/drug paraphernalia _____

- Neutralize chemical spills _____

- Absorb chemical spills and package material _____

- Remove porous, non-machine washable material(s)
 - Carpeting _____
 - Upholstered furniture _____
 - Drapery _____
 - Other/miscellaneous (i.e. stuffed animals, mattresses, etc.) _____

- List items machine washed (two times with detergent) _____

- Remove etched or stained plumbing fixtures _____

- Flush attached plumbing _____
- Remove and replace all HVAC filters _____
- Remove and clean diffusers and intakes _____

- Clean area around diffusers and intakes _____

Property Address: _____

- Clean non-porous ductwork (two feet from the opening) _____

- Remove and replace internally insulated ductwork two feet from the opening _____
- Scrub ceiling, walls, floors and other non-porous materials (three times, list detergent used) _____

- Remaining stained non-porous materials
 - Rewashed? _____
 - Painted? _____
 - Removed? _____
- Resilient floor coverings
 - Cleaned? _____
 - Removed? _____
 - Covered in place? _____
- Ceramic or stone tile surfaces
 - Cleaned? _____
 - Removed? _____
 - Re-glazed? _____
 - Grout epoxy-based stained? _____
- Wooden materials
 - Cleaned? _____
 - Removed? _____
 - Sealed with non-water based coating? _____
- List appliances removed _____

- Date ventilation initiated after decontamination completed: ____/____/____
- Date local health department notified of completion of decontamination and provided a copy of cleanup activity documentation: ____/____/____

- Retain a copy of receipt(s) for disposal of all items _____
- Retain a copy of receipt(s) for purchase of new furnishings/appliances/building materials _____
- Retain a copy of receipt(s) for repairs _____

Retain all documentation for three years.

APPENDIX E

References

- I. **California Department of Toxic Substances Control**
- II. **Colorado Department of Public Health and Environment**
http://www.co.weld.co.us/departments/health/environmental/health_methlab.html
- III. **Mel and Enid Zuckerman Arizona College of Public Health - Environmental and Community Health.**
- IV. **Minnesota Department of Health - Environmental Health in Minnesota - Meth and Clandestine Drug Labs.**
- V. **Oregon Department of Human Services - Clandestine Drug Lab Cleanup Program**
- VI. **Salt Lake Valley Health Department - Chemically Contaminated Property**
<http://www.slvhealth.org/cs/html/factsmeth.html>
- VII. **Utah Office of the Attorney General**
- VIII. **Washington Department of Health**
- IX. **Chemical Exposures Associated with Clandestine Methamphetamine Laboratories**
- X. **Drug Facts - Office of National Drug Control Policy**
<http://www.whitehousedrugpolicy.gov/drugfact/methamphetamine/index.html>