

Cleaning Up Former Methamphetamine Labs

produced by the Kansas Department of Health and Environment

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Guidelines Introduction

Methamphetamine labs are illegal clandestine operations set up to cook up one of the most dangerous drugs available today. Often these labs are set up in houses, garages, and motels without the knowledge of the landlord or property owner. This guideline is a resource for property owners in returning their property to a condition allowing safe occupancy.

The contamination present in a former meth lab can affect soil, ground water, air, furniture, and structure materials, such as flooring, vents, walls and other porous materials. Porous materials are defined as any surface containing voids, pores, cells, interstices, and other openings, which may or may not interconnect. Examples of porous materials include but are not limited to carpets, draperies, bedding, mattresses, fabric covered furniture, pillows, drop ceiling or other fiber-board ceiling panels, cork paneling, blankets, towels, clothing, and cardboard. Examples of "Non-porous" materials are: resistant to penetration of liquids, gases, powders and includes non-permeable substance or materials, that are sealed such as, concrete floors, wood floors, ceramic tile floors, vinyl tile floors, sheet vinyl floors, painted drywall or sheet rock walls or ceilings, doors, appliances, bathtubs, toilets, mirrors, windows, counter-tops, sinks, sealed wood, metal, glass, plastic, and pipes. Many of the contaminants present during the meth cooking process can be harmful if humans or pets are exposed to them. The contaminants can cause health problems, including headaches, nausea, dizziness, skin and eye irritation, and burns. Short-term exposures to high concentrations of some of these chemicals are

common to first responders, such as fire departments or law enforcement officers first entering a lab. These exposures may cause severe health problems including lung damage and chemical burns to the body.

Cases have been reported where children and adults living in a house or other structure, which formerly contained a meth lab, encountered lingering health problems. There is little research about the health effects from long-term exposure to the contaminants left behind after a meth lab is dismantled. Until the contaminants have been identified, their quantities measured, and the health effects known; the Kansas Department of Health and Environment (KDHE) advises property owners to exercise caution and use the safest possible cleaning practices in dealing with a former meth lab property and any remaining contamination.

Exposure to meth residues may cause symptoms similar to those experienced by meth users. Meth affects the central nervous system and will increase heart rate and blood pressure giving the user a euphoric feeling, but with deadly side effects. Meth residues may be fatal to young children.

Exposure to volatile organic compounds (VOCs) may cause symptoms such as nose and throat irritation, headaches, dizziness, nausea, vomiting, confusion and breathing difficulties. Benzene, a potential meth chemical, is a VOC known to cause cancer.

Chemicals that are acids or bases will cause a burning sensation on the skin and in mucous membranes, and can cause severe eye damage. Exposure to hazardous metals and salts can cause a wide range of health effects including respiratory

irritation, decreased mental function, anemia, kidney damage and birth defects.

A proper cleaning is essential to ensure the safety of all potential occupants of the referenced site in the future. The property owner is liable for all injuries resulting from contamination left on site. These guidelines have been established to assist the property owner's cleanup of former meth labs, which may help ensure the safety of their property and tenants. "Property owner" for the purpose of real property, means the person holding fee title to real property. "Property owner" also means the person holding title to a manufactured home. With respect to personal property, the term means the person who lawfully owns such property.

How can a property be cleaned?

Since meth labs are found to contaminate residences, the federal and Kansas guidance of cleaning to a level of no greater than $1.5 \mu\text{g}/100 \text{ cm}^2$ of residual methamphetamines will render the property for safe reoccupation. Responses from across the country to the cleanup of these properties have ranged from doing nothing to complete demolition. KDHE has determined most residences can be cleaned up and surface wipe samples are the best way to determine if the clean up is adequate. The Health Guidance Values of $1.5 \mu\text{g}/100 \text{ cm}^2$ of residual meth has been achieved at a former meth labs and verified through wipe sampling. There is no practical way to verify successful clean up through air sampling unless the precursor chemicals used in production are known.

KDHE believes the safest way to clean up a former meth lab is to hire environmental companies trained in hazardous substance removal and cleanup. Owners that clean their own properties should be aware that household building materials, flooring, and furniture could absorb contaminants and give off fumes. Use caution and wear clothing to protect your skin, such as gloves, long sleeves, and eye protection during cleaning. Smoking should not be permitted during the cleanup process.

General Guidelines

Air out the structure

After a lab has been seized, law enforcement officials or a DEA contractor may remove lab waste and bulk chemicals used in the lab. During this removal, every effort is made to air out the structure for the safety of the removal crew. For security reasons, the structure is usually closed upon their departure. The short-term airing-out may not be sufficient to clear out all the contaminants from the air inside the building. Be sure the structure has been suitably ventilated for several days before cleaning. Open all the building's windows and set up exhaust fans to circulate air out of the house. During this time, the property should remain off limits unless it is necessary to make short visits to the property. After the initial airing out, good ventilation should be maintained throughout the property's cleanup.

Contamination removal and disposal

During the meth cooking process, vapors are given off that can spread and be absorbed by nearby materials. Spilled chemicals, supplies and equipment can further contaminate non-lab items. It is a good idea to remove unnecessary items from the property and dispose of them properly.

If you find suspicious containers or lab equipment at the property do not handle them yourself. Leave the area and contact your local law enforcement agency. It is possible that some items may have mistakenly been left behind after a seizure. If the property has been searched by a hazardous materials cleanup team, the items have most likely been identified and are not dangerous. However, some properties may not have been searched or some items may have been overlooked in the debris or confusion of a seizure.

Biohazards may be a concern due to use of methamphetamine on the property. These may include syringes or blood stained materials. Please be very careful if you discover any syringes to avoid accidental pokes. Syringes can be placed in

an empty 2-liter bottle and disposed of at the local municipal solid waste landfill. If you are accidentally pricked by a syringe, contact your health care professional immediately. In the event that you discover bloodstained items, please contact your local health department for advice on disposal.

Surfaces

Surfaces (i.e.: walls, counters, floors, furniture, and ceilings, etc.), which are porous, can also hold contamination from the meth cooking process. This has been detected especially in those areas where the cooking, preparation, and/or smoking the finished product were performed. Cleaning these areas is very important as people may come in frequent contact with these surfaces through skin, food preparation, etc. All carpeting not removed should be vacuumed using a HEPA filtration system. "HEPA filtration" means a filtering system capable of trapping and retaining at least 99.97 percent of all monodispersed particles 0.3 microns in diameter or larger.

KDHE suggest using normal household cleaning methods and products to remove any remaining contamination. Don't forget to wear gloves, protective clothing, such as long sleeves, and eye protection. Again, ventilation of the property should be continued throughout the cleaning process.

Absorbent materials, such as carpet and pad, drapes, clothing, etc. can accumulate vapors that are dispersed through the air during the cooking process. They also may collect dust and powder from the chemicals involved in the manufacturing process. It is recommended that these materials be disposed of, especially if an odor or discoloration is present.

If a surface has visible contamination or staining, a complete removal and replacement of that surface section is recommended. This could include removal and replacement of wallboard, floor coverings, and counters. If this is not possible, intensive cleaning followed by the application of a physical barrier, such as paint or epoxy, is recommended. These areas should be monitored

and the barrier maintained to assure that the contamination is contained.

Ventilation system

Ventilation systems (heating, air conditioning) tend to collect fumes and dust and redistribute them throughout a home. The vents, ductwork, filters, and even the walls and ceilings near ventilation ducts can become contaminated. Replace all of the air filters in the system and any flexible duct work, remove and clean vents, clean the surfaces near system inlets and outlets, and clean the system's ductwork. If the ductwork has insulation on the inside, all of the duct system will have to be removed.

Plumbing

Waste products generated during meth manufacturing are often thrown along the sides of roads or in yards, but most are dumped down sinks, drains, and toilets. These waste products can collect in drains, traps, and septic tanks and give off fumes. If a strong chemical odor is coming from household plumbing, do not attempt to address the problem yourself; rather, contact a plumbing contractor for professional assistance. Be sure to notify the plumber of the suspected chemical problem to ensure they wear the proper protective gear. If you suspect the septic tank or yard may be contaminated, contact the KDHE at (785) 367-7300 or 296-1679 for further direction.

Repainting

When a surface has been cleaned, painting that surface should be considered, especially in areas where contamination was found or suspected. If there is any remaining contamination that cleaning did not remove, painting the surface puts a barrier between the contamination and anyone who may come in contact with those surfaces. Even on areas that people do not normally touch, painting will cover up and "lock" the contamination onto the surface, reducing the chances that it could be released into the air. Kansas allows latex paint to be used for this purpose but a primer coat must first be applied over the cleaned surface. Oil based paint is preferred.

Should testing be done after cleanup?

It is advisable to have the property evaluated and tested by a trained professional if your property still has an odor or causes physical irritation to those exposed after cleaning your residence using the guidelines stated in this article. You should consider having the property tested if you are concerned with liability issues. Sampling is an expensive option, but may provide peace of mind for property owners and families. You may want to contact your insurance carrier for advice and assistance. KDHE can provide a list of wipe test retailers and lab services to determine if the clean up has been sufficiently completed.

Surface wipe sampling is only mandatory when KDHE or the local authorities has posted an order prohibiting use of the structure. If KDHE or the local health department or building inspection authority requires sampling at your property, an order prohibiting use of the property will be posted. The property owner will be responsible to accomplish a thorough cleanup and subsequently have samples collected and analyzed.

The analytical results should be submitted to KDHE and your local health department or local building inspection authority. An inspection of the property by local health or building inspection officials may also be necessary after sampling is conducted. The order posted on the structure may be removed if the health-based guidelines of a level of no greater than **1.5 µg/100 cm²** of residual methamphetamines are met and the site is determined to be safe for re-occupation.

Remember these steps to cleaning a former meth property:

- 1. Air out the building before and during cleanup.**
- 2. Wear proper personal protection**
- 3. Remove all unnecessary items and dispose of them.**

- 4. Remove visibly contaminated items or items that have an odor.**
- 5. Air out the building for 3 to 5 days after the removal of unnecessary and visibly contaminated items.**
- 6. Clean all surfaces using household cleaning methods and wear proper personal protection.**
- 7. Clean the ventilation system.**
- 8. Leave plumbing cleanup to the experts.**
- 9. Air out the building for three to five days after cleaning.**
- 10. If odor or staining remains, have your home evaluated by a professional.**

If you have questions about these guidelines, please call the Kansas Department of Health and Environment at (785) 368-7300.

These guidelines have been established by the Kansas Department of Health and Environment - Meth Lab Cleanup Program. The Kansas Department of Health and Environment would like to acknowledge the Missouri Department of Health for permission to utilize their guidelines for the development of this publication.

Contact Information

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www.kdhe.state.ks.us/methlabs

Kansas Bureau of Investigation

1-800-KS-CRIME (To report crime)

(785) 296-8200 (Headquarters, Topeka)

EPA Meth Web Page

Detailed Clean Up Guidance

www.epa.gov/oem/methlab.htm