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Cleaning Up Hazardous Chemicals at Methamphetamine Laboratories

Human health hazards can remain after the seizure of a clandestine methamphetamine laboratory. Local health departments, under Wisconsin State Statute 254, are responsible for dealing with human health hazards. This fact sheet summarizes current Wisconsin Department of Health and Family Services recommendations for the cleanup of chemical residues at former meth lab sites. Contact the Department for further assistance when dealing with high production meth labs. For more information on how to recognize a meth lab, contact the Narcotics Bureau of the Wisconsin Division of Criminal Investigations.

What is methamphetamine?

Methamphetamine, an illegal substance also known as "meth," "speed," "crank," "crystal," and "ice", is a potent synthetic drug that is a stimulant of the central nervous system. The effects of meth are similar to those of cocaine. It gives the user a "rush" or intense feeling of pleasure that lasts longer than cocaine. Meth is an increasingly popular drug that can be injected, snorted, taken orally, or smoked. Long-term use leads to physical dependence. Meth may give a person periods of high energy and rapid speech. Many chronic meth users also experience severe depression, delusions, hallucinations, paranoia, and violent behavior. **For this reason, you should never enter an active meth lab. Contact your local law enforcement immediately.**

Meth is often made in makeshift laboratories, such as rented apartments or hotel rooms. During the production of meth, a property can become contaminated with hazardous chemicals.

What chemicals is meth made from?

There are many different chemical "recipes" for making or "cooking" meth. Each uses different ingredients. Many chemicals used in meth labs are also common in homes. However, the poor handling and disposal of these chemicals, as well as mixing incompatible compounds, can create hazards. Some examples of common household chemicals used in a meth lab include flammable, volatile solvents, such as methanol, ether, benzene, methylene chloride, trichloroethane, and toluene. Other common household chemicals include muriatic acid, sodium hydroxide, table salt, and ammonia.

Meth-related chemicals not commonly found in large amounts in homes include anhydrous ammonia, red phosphorous, iodine, reactive metals, and other solvents not listed above. Additionally, other hazardous chemicals can be formed during the "cooking" process.

As a result of meth "cooking", many chemicals may contaminate a property. Some household materials, such as carpeting, wallboard, ceiling tile, or fabric, may actually absorb spilled chemicals. Furniture or draperies may also become contaminated. Soil or groundwater (including nearby drinking water wells) may become contaminated if chemicals are dumped in a septic system or on the ground.

What happens after a meth lab is discovered?

When a meth lab is discovered, the local law enforcement agency and/or the Division of Criminal Investigations, is responsible for making arrests and seizing the lab. Evidence is removed from the site, and chemical hazard consultants are brought in by law enforcement to remove containers of hazardous chemicals related to the operation of the meth lab. Officials will also screen indoor air. Law enforcement may call child protective services if children are involved.

Once the main sources of chemicals related to the former lab have been removed, the health department is called in to evaluate the property for long-term exposure risks from residual chemicals. Additionally, the Department of Natural Resources may be called in to assess any environmental impacts from chemical spills or improper waste disposal.

Next steps for local health departments called in after a lab seizure

Before entering a former meth lab, call the local law enforcement agency and/or Division of Criminal Investigations to get information on the seizure. Ask about: the amounts and types of chemicals used in the meth production; whether there was evidence of solvent use, chemical spills, or unusual odors; where the production was occurring; whether it was a low or high production lab*; and the general level of sanitation existing on the property.

When visiting a site for the first time, have a member of local law enforcement or the Division of Criminal Investigations familiar with the site accompany you.

Will exposure to chemicals in a meth lab result in harmful health effects?

While still in operation, or prior to a seizure, there is a high risk for acute exposure to harmful chemicals in meth labs. If you discover an **active** meth lab, do not attempt to enter. Contact your local law enforcement agency immediately.

Many of the chemicals used in the "cooking" process can be harmful. Short-term exposures to high concentrations of chemical vapors that may exist in a functioning meth lab can cause severe health problems or even death. For this reason, meth "cookers", their families, and first responders are at highest risk of acute health effects from chemical exposure, including lung damage and chemical burns to different parts of the body. Heating solvents inside a building can create a highly flammable situation; meth labs are often discovered when fire fighters respond to a blaze.

After a bust and seizure of a meth lab there is often only a low exposure risk to chemical residues, but this contamination needs to be cleaned up. However, properties often have serious sanitation and safety issues (i.e., physical and electrical hazards may exist). Sanitation issues can complicate the assessment of chemical hazard risk. Any evaluation needs to consider the overall condition of the property.

Chemical residues and lab wastes that are left behind at a former meth lab can also result in health problems for people who use the property. Unsuspecting people can touch residues of meth and have symptoms similar to those experienced by meth users. For this reason, local health departments should thoroughly assess the property for hazards prior to allowing it to be re-inhabited, especially by children.

When a meth lab is discovered in a multiple-unit dwelling, neighbors may be concerned about their exposure to hazardous chemicals while the lab was still active. While neighbors' risk for exposure is usually very low both before and after a meth lab bust, it is important to address any nearby residents' concerns.

What kind of protective equipment can prevent chemical exposure?

At a minimum, all people entering a former meth lab before law enforcement/Division of Criminal Investigations led cleanup and removal of chemicals should wear protective eye, hand and foot covering. Disposable gloves (e.g. latex or nitrile) and a disposable protective jumpsuit (e.g. Tyvek) are recommended. If toxic fumes or vapors are suspected, only trained professionals should enter and clean the building with appropriate safety equipment.

How can a meth lab be cleaned up?

Since illegal drug labs are an emerging problem, there are currently no official regulations on exactly how to clean up former meth labs, particularly inside of a building. Situations are different in each meth lab. The Department has worked with other agencies to provide the following meth lab clean up procedures that will protect the public and be practical for property owners.

Sometimes scrubbing and painting is all that is necessary to restore a former meth lab to a safe living environment. Sometimes, contamination is so broad and extensive that the inside of the building needs complete renovation. Across the

* Always contact the Department of Health and Family Services for more assistance before proceeding in cases of high production labs.

U.S., the response to cleaning up former meth lab properties ranges from minor cleaning to complete demolition of buildings. Some meth labs require soil and/or groundwater cleanup as well, depending on the extent of how and where chemical wastes were managed.

Property owners are responsible for proper clean up and costs. Owners who decide to clean buildings on their own should be aware that household building materials and furniture may absorb contaminants and, in some cases, give off fumes. Private cleanup contractors can be hired to conduct building cleanup as well.

Is sampling needed at former labs?

There is currently no national or state consensus on sampling at former meth lab buildings. The Department currently recommends that sampling is usually not needed. A qualitative approach to clean up, including visual assessment and walk-through, is just as effective at identifying risk.

If chemicals have been dumped or spilled in the environment (on the ground, in a septic system, etc.), the Department of Natural Resources will assess the need for environmental sampling, and has specific guidelines to address environmental contamination.

What are acceptable clean up levels for buildings?

There are no pre-determined clean up levels inside a building or home for the many chemicals associated with meth labs. A risk assessment may be necessary to evaluate the potential for exposure on a case-by-case basis.

Until a former meth lab is cleaned, no one should enter the area without foot and hand protection (shoes and gloves) at a minimum. Furthermore, no one should rent, purchase, or occupy the site of the former meth lab until approved cleaning has occurred.

General guidelines for building clean up

- *General sanitation*

Be aware that general sanitation issues often exist at former meth labs. These issues can complicate the site assessment process, and may include general filth, squalor, and rodent and pest infestations.

- *Air out the building*

After law enforcement officials seize a lab, professionals trained to handle hazardous materials are called in to remove lab waste and any bulk chemicals. During this removal, every effort is made to air out the building for the safety of the removal crew. For security reasons, the building is usually closed upon their departure. The short-term airing-out may not be sufficient to clear the indoor air of solvents that were spilled and remain inside. The building should be aired out for several days before and during cleaning. Exhaust fans can also be set up to circulate the air. During this time, the building should remain off limits unless it is necessary to make short visits to the property.

After the cleaning and airing-out the building, it should be re-checked for staining and odors. If the initial cleaning was not successful, more extensive steps should be taken.

- *Remove and dispose of contamination*

During the meth "cooking" process, splashed and spilled chemicals, supplies and equipment, may have contaminated non-lab items. Remove, double-bag, and properly dispose of any items that are visibly contaminated.

If you find suspicious containers or lab equipment at the property, do not handle them. Leave the area and contact your local law enforcement agency or fire department. It's possible that some items may have been accidentally left behind by law enforcement. If a hazardous materials clean up team searched the property, the items are probably not dangerous. But, some items may be overlooked in the debris or confusion.

Absorbent materials, such as carpeting, drapes, clothing, furniture, etc., can accumulate dust or splattered chemicals during "cooking." It is recommended these materials be disposed of if an odor or discoloration is present.

- *Inspect surfaces, remove or clean as needed*

Surfaces, such as walls, counters, floors, and

ceilings, are porous and can hold contamination from the meth "cooking" or preparation process. Clean up is important because of frequent contact with these surfaces, e.g. food preparation, etc.

If a surface has visible contamination, staining, or gives off odors, complete removal and replacement of the surface is recommended. This could include removal and replacement of wallboard, floor coverings and counters.

Appliances where meth was stored or "cooked", such as refrigerators, kitchen ranges, or ovens, should be disposed of and replaced.

Wear gloves, protective clothing, such as long sleeves, and eye protection while cleaning. Again, ventilation of the building should be continued throughout the cleaning process.

- *Inspect plumbing*

While some of the waste products generated during meth manufacture may be thrown along the sides of roads or in yards, 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. Contact a plumbing contractor for professional assistance. Let the contractor know that the property is a former meth lab and inform him/her of the types and quantities of chemicals that may have been routinely flushed down the drains. If you suspect the septic tank or yard may be contaminated, contact the local health department.

- *Repaint surfaces*

After a surface has been cleaned, painting that surface should be considered, especially where contamination was found or suspected.

If there is any remaining contamination not removed by cleaning, painting the surface puts a barrier between the contamination and anyone who may come in contact with those surfaces. Painting will cover up and "lock" the contamination onto the surface, reducing the chance of it being released into the air.

Summary steps for building clean up:

1. Contact your local law enforcement agency to determine what chemicals were present at the time of seizure.
2. Have local law enforcement personnel accompany you when visiting the site.
3. Thoroughly ventilate the building before and during clean up.
4. Until a former meth lab is cleaned, do not enter the area without foot and hand protection (shoes and gloves) at a minimum.
5. Remove and dispose of all unnecessary items.
6. Remove visibly contaminated items or items that have an odor.
7. Clean all surfaces using household cleaning methods and proper personal protection.
8. Leave plumbing cleaning to the experts.
9. Air out the building for 3 to 5 days.
10. If odors or staining remain, have the building evaluated by a professional.

Should testing be done after clean up?

Testing can be done after clean up, but at this time the Department of Health and Family Services does not recommend it. The cleaning procedures outlined in this document, when followed correctly, should be adequate for reducing any health hazard risk. If you are dealing with a high production meth lab, call the Department for more assistance. Division of Criminal Investigations will determine if the site was a high production lab.

For more information, contact:

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