

# Health Consultation

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CONFEDERATED SALISH AND KOOTENAI TRIBES PETITION  
FLATHEAD RESERVATION, MONTANA

Public Health Activities Associated with Methamphetamine Lab Cleanups

DECEMBER 14, 2005

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Public Health Service  
Agency for Toxic Substances and Disease Registry  
Division of Health Assessment and Consultation  
Atlanta, Georgia 30333

## **Health Consultation: A Note of Explanation**

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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HEALTH CONSULTATION

CONFEDERATED SALISH AND KOOTENAI TRIBES PETITION  
FLATHEAD RESERVATION, MONTANA

Public Health Activities Associated with Methamphetamine Lab Cleanups

Prepared by:

Division of Regional Operations  
And  
Division of Health Assessments and Consultations/Office of Tribal Affairs  
Agency for Toxic Substances and Disease Registry

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## **Statement of Issues**

On June 4, 2004, the Confederated Salish and Kootenai Tribes requested assistance from the Agency For Toxic Substances and Disease Registry (ATSDR) in response to the following concern:

**What public health strategies does ATSDR recommend the Tribes implement to prevent exposures to chemicals used to manufacture methamphetamine in clandestine laboratories?**

## **Background**

The Flathead Reservation, home to the Confederated Salish and Kootenai Tribes (CS&KT), is located in northwestern Montana, just west of the Continental Divide. The Flathead Reservation is approximately 40 miles east to west and 80 miles north to south. The Reservation includes the southern half of Flathead Lake. Federal, state and local highways provide easy access throughout the Flathead Reservation. The Flathead Reservation covers an area of 1,317,399 acres, of which approximately 61% is owned by the Tribes or by individual Tribal members. A total of 6,964 Tribal members, including 4,444 Tribal members currently living on the Flathead Reservation represent the Confederated Salish and Kootenai Tribes (Fig.1). Non-members (mostly non-Indians) outnumber Tribal members on the reservation by nearly five-to-one with a non-member population of approximately 21,728.

## **Discussion**

According to the U.S. Office of National Drug Control Policy, methamphetamine is the most prevalent synthetic drug manufactured in the United States. Because methamphetamine is highly addictive and easy to manufacture, use of the drug has increased across the nation.<sup>1</sup> The Department of Justice considers methamphetamine (meth) to be the most significant drug problem in Montana. Most methamphetamine is

trafficked from Mexico or other states or is manufactured locally in small “clandestine” drug labs (e.g. private residences).<sup>2</sup>

Operators of these small labs prefer rural, sparsely populated areas; both are characteristics of Montana and most Indian Reservations. Methamphetamine is easy to manufacture using commonly available, household and commercial products (Table 1). Many of the chemicals used to manufacture “cook” methamphetamine can be harmful.<sup>3</sup>

The U.S. Drug Enforcement Agency (DEA) calculates that for every pound of methamphetamine produced in a clandestine lab, up to seven pounds of toxic waste are generated. Illicit disposal of these wastes also presents a chemical exposure threat to children and others who may come in direct contact with discarded chemicals, or glassware/containers contaminated with chemical residues.<sup>3</sup>

**Table 1**

**Household Chemicals Commonly Used To Manufacture Methamphetamine**

- Acetone
- Alcohol (isopropyl or rubbing)
- Anhydrous ammonia (fertilizer)
- Ephedrine (cold medications)
- Ether (engine starter)
- Hydrochloric acid (pool supply)
- Iodine (flakes or crystal)
- Kitty litter
- Lithium (batteries)
- Methanol (gasoline additive)
- MSM (nutritional supplement)
- Pseudoephedrine (cold medications)
- Red phosphorus (matches or road flares)
- Salt (table or rock)
- Sodium hydroxide (lye)
- Sulfuric acid (drain cleaner)
- Toluene (brake cleaner)
- Trichloroethane (gun cleaner)

Source: USDOJ/Fast Facts

Exposures to high concentrations of chemical vapors generated during the “cooking” operations can result in serious health problems or even death (Table 2). Substances used in these laboratories are corrosive, explosive, flammable, and toxic and can cause fires, explosions, and other uncontrolled reactions. An estimated 20% to 30% of known methamphetamine laboratories are discovered because of fires and explosions.<sup>4</sup>

ATSDR maintains the Hazardous Substances Emergency Events Surveillance System (HSEES), a database of the public health consequences (e.g., morbidity, mortality and

evacuations) associated with acute substance release events (Available at <http://www.atsdr.cdc.gov/HS/HSEES/hsees.html>). Studies using data from states participating in HSEES revealed that methamphetamine drug labs are commonly located in homes. First responders (e.g. law enforcement) and members of the general public reported a majority of injuries associated with methamphetamine laboratories. Respiratory irritation, headache, eye irritation and burns were the most common injuries. It has been estimated that 20% of these labs are in homes where children live. Acute health effects were also noted among children and other unsuspecting individuals.<sup>5</sup> Children are considered to be more susceptible to injuries from chemical exposure because children consume more food, air and water relative to body size and their organ and immune systems are not completely developed. Young children also have less ability to recognize and avoid emergency situations than do adults.<sup>6</sup>

The federal government has not developed clean-up guidelines for decontamination of homes, offices, motels and other places formally used to manufacture methamphetamine. There is currently no national or state consensus regarding the appropriate sampling (frequency, type or location) at structures formerly used to manufacture methamphetamine.<sup>7</sup>

The development of nationally accepted, health based cleanup levels for specific chemicals is complicated due to the many different recipes, the variety of mixtures and the different chemicals that can be used to manufacture methamphetamine. However, a proposed Bill (H.R 798) introduced by the 109<sup>th</sup> Congress would require the U.S. Environmental Protection Agency (EPA) to establish “voluntary” guidelines for the remediation of former methamphetamine laboratories including preliminary site assessment and the remediation of residual contaminants. (available at <http://www.house.gov/science/committeeinfo/HR798.pdf>).

Table 2

## Health Effects Associated with Exposure to Chemicals Used To Manufacture Methamphetamine

Chemical	Hazards
Pseudoephedrine	Ingestion of doses greater than 240 mg causes hypertension, arrhythmia, anxiety, dizziness, and vomiting. Ingestion of doses greater than 600 mg can lead to renal failure and seizures.
Acetone/ethyl alcohol	Extremely flammable, posing fire risk in and around the laboratory. Inhalation or ingestion of these solvents causes severe gastric irritation, narcosis, or coma.
Freon	Inhalation can cause sudden cardiac arrest or severe lung damage. It is corrosive if ingested.
Anhydrous ammonia	A colorless gas with a pungent, suffocating odor. Inhalation causes edema of the respiratory tract and asphyxia. Contact with vapors damages eyes and mucous membranes.
Red phosphorous	May explode as a result of contact or friction, ignites if heated above 260°C. Vapor from ignited phosphorous severely irritates the nose, throat, lungs and eyes.
Hypophosphorous acid	Extremely dangerous substitute for red phosphorous. If overheated, deadly phosphine gas is released. Poses serious fire and explosion hazard.
Lithium metal	Extremely toxic to all body tissues. Reacts violently with water and poses a fire or explosion hazard.
Hydriodic acid	A corrosive acid with vapors that are irritating to the respiratory system, eyes and skin. If ingested, causes severe internal irritation and damage that may cause death.
Iodine crystals	Produces vapor that is irritating to the respiratory system, eyes, and skin. Solid form irritates the eyes and may burn skin. If ingested, causes severe internal damage.
Phenylpropionolamine	Ingestion of doses greater than 75 mg causes hypertension, arrhythmia, anxiety, and dizziness. Quantities greater than 300 mg can lead to renal failure, seizures, stroke, and death.

Source: USDOJ/Fast Facts

A report produced by the National Jewish Hospital and Research Center indicates that methamphetamine residual can remain for months on surfaces within buildings formally used to manufacture methamphetamine. Methamphetamine is suspected of producing some teratogenic effects and other health and behavioral disorders associated with prenatal exposures.<sup>8</sup> However, no health-based exposure guidelines have been established for methamphetamine. In addition, there is uncertainty in the scientific literature about the adverse health effects associated with chronic exposure to the many

other chemical residues found in homes used as methlabs.<sup>9</sup> To address these potential hazards, a number of states have established methamphetamine lab clean-up guidelines and standards using methamphetamine residue or volatile organic compounds (VOCs) as surrogate measurements of cleanliness.<sup>10, 11</sup>

Law enforcement agencies, such as DEA, routinely use contractors to remove evidence of gross contamination which may include equipment, product, bulk chemicals and chemical by-products. In Montana, clean-up of private property has been the responsibility of the property owner. Beginning October 01, 2005, the Montana DEQ established the Methamphetamine Cleanup Program (MCP). This program was created in response to House Bill 60 passed by 2005 Montana legislation (Appendix A). Through this legislation, DEQ is responsible for working with property owners, contractors and local health officials to remediate former methamphetamine labs in Montana. Eighteen properties (listed by address) are identified on the Montana DEQ website as being sites where methamphetamine had been manufactured on the Flathead Reservation. Information about the MCP is provided on the DEQ website (<http://www.deq.state.mt.us/Meth/index.asp>). State methamphetamine guidelines adopted by Colorado and by Wisconsin are included in Appendix B.

## **Conclusions:**

1. There is currently no national consensus regarding sampling methodology to evaluate health hazards at former methamphetamine lab buildings.
2. National cleanup guidelines have not been established by the federal government; however, methamphetamine cleanup guidelines have been developed by a number of States.
3. First responders are at the most risk of acute chemical exposure or injury from explosion or fire associated with methamphetamine labs.

4. Children are known to be especially vulnerable to injury or illness resulting from acute chemical exposure, explosions or fire associated with methamphetamine labs.

### **Recommendations:**

- 1) Provide first responders with information about how to prevent chemical exposures and injuries (Table 3).
- 2) Provide first responders with training on risks associated with illicit drug laboratories, decontamination procedures, and use of personal protective equipment. Contact a qualified contractor to arrange for this training.
- 3) Inform the general public about how to recognize a clandestine methamphetamine drug lab (Table 4).
- 4) Tribal agencies (law enforcement, child welfare, medical and mental health services) and others should arrange to meet and identify Tribal priorities regarding methamphetamine use and manufacture on the Flathead Reservation. Adopt Tribal guidelines consistent with identified Tribal priorities. Should CS&KT decide to develop and implement methamphetamine lab cleanup guidelines, the ATSDR/Regional Representative in Montana will provide technical assistance if requested

Table 3

Interventions for reducing the risk for injury among first responders to methamphetamine events

- Increase awareness of the risks associated with illicit drug laboratories;
- Encourage training in situations involving hazardous material;
- Identify the nature of the event before entering the contaminated area;
- Wear appropriate personal protective equipment; and
- Follow a proper decontamination process after exposure to hazardous substances.

Source: CDC: MMWR: April 15, 2005

Table 4

Warning Signs of Living Near a Meth Lab

- Strong odor of solvents
- Residences with Windows Blacked-out
- Iodine or chemical stained bathroom or kitchen fixtures
- Residents who pay their landlords in cash
- Increased activity, especially at night
- Excessive trash

*Washington State Department of Health*  
<http://www.doh.wa.gov/ehp/ts/CDL/cdl-in-neighborhood.pdf>

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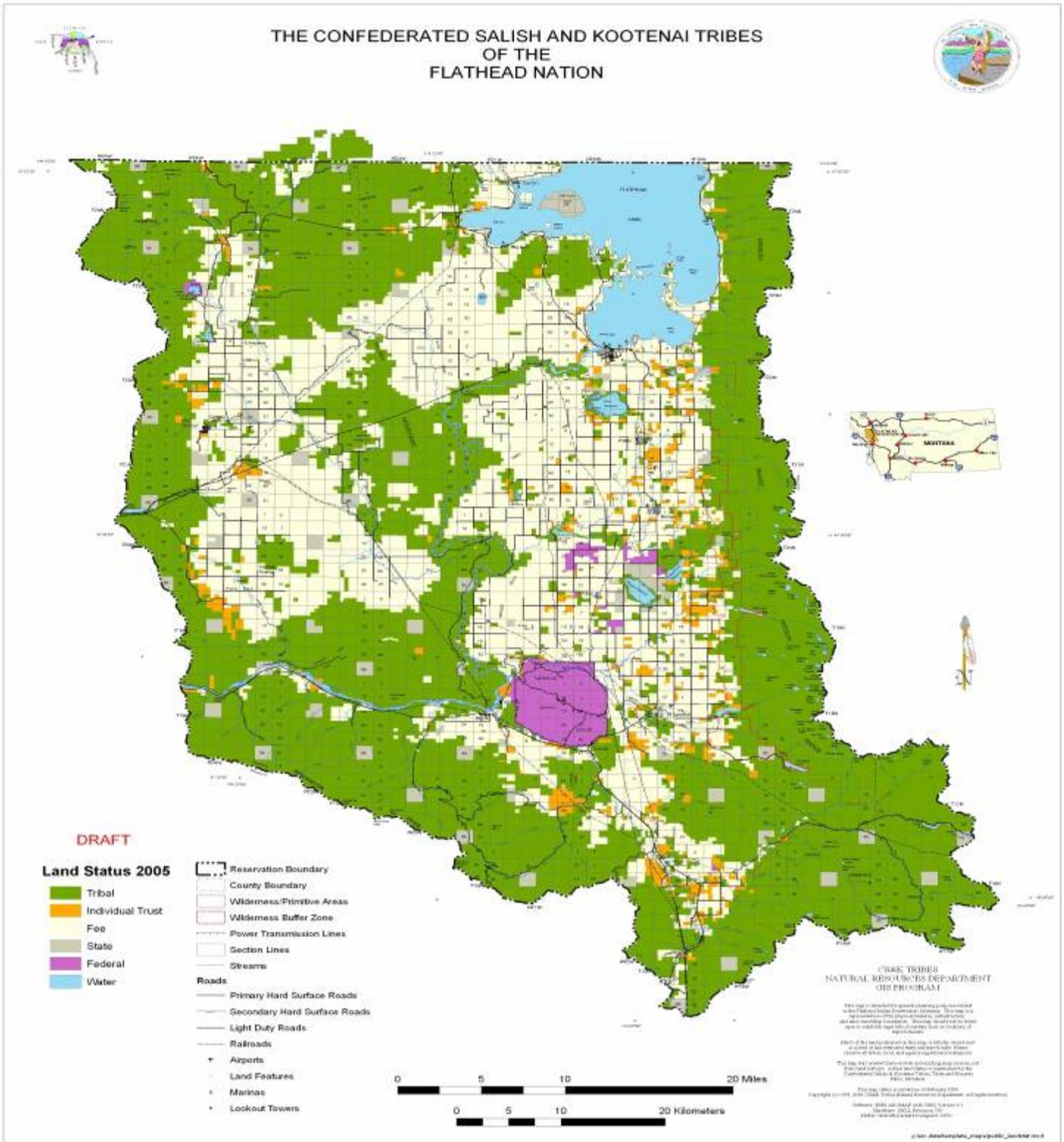
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Figure 1



# Appendix A

MONTANA LEGISLATURE  
HOUSE BILL 60

## 2005 Montana Legislature

[About Bill -- Links](#)

### HOUSE BILL NO. 60 INTRODUCED BY HARRIS

AN ACT ESTABLISHING A DECONTAMINATION STANDARD FOR THE CLEANUP OF INDOOR PROPERTY CONTAMINATED BY THE CLANDESTINE MANUFACTURE OF METHAMPHETAMINE; PROVIDING FOR RULEMAKING AUTHORITY TO CHANGE THE STANDARD OR TO ADOPT SIMILAR STANDARDS FOR PRECURSORS TO METHAMPHETAMINE TO PROTECT HUMAN HEALTH; AUTHORIZING THE DEPARTMENT OF ENVIRONMENTAL QUALITY TO PROVIDE MINIMUM STANDARDS AND REQUIREMENTS FOR CERTIFYING PERSONS TO CONDUCT METHAMPHETAMINE LAB REMEDIATION ACTIVITIES; REQUIRING NOTICE TO SUBSEQUENT OCCUPANTS OF CONTAMINATED INHABITABLE PROPERTY UNDER CERTAIN CONDITIONS; PROVIDING REPORTING REQUIREMENTS; AND PROVIDING CIVIL IMMUNITY FOR A PROPERTY OWNER AND OWNER'S AGENT IN CERTAIN INSTANCES.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MONTANA:

**Section 1. Finding and purpose.** The legislature finds that some properties are being contaminated with hazardous chemical residues created by the manufacture of methamphetamine. Innocent members of the public may be harmed when they are unknowingly exposed to these residues if the properties are not decontaminated prior to any subsequent rental, sale, or use of the properties. Remediation of properties has been frustrated by the lack of a decontamination standard. The purpose of [sections 1 through 6] is to protect the public health, safety, and welfare by providing specific cleanup standards and authorizing the department to establish a voluntary program that will provide for a property decontamination process that will meet state standards.

**Section 2. Definitions.** Unless the context requires otherwise, in [sections 1 through 6], the following definitions apply:

(1) "Department" means the department of environmental quality provided for in 2-15-3501.

(2) (a) "Inhabitable property" means any building or structure used as a clandestine methamphetamine drug lab that is intended to be primarily occupied by people, either as a dwelling or a business, including a storage facility, mobile home, or recreational vehicle, that may be sold, leased, or rented for any length of time.

(b) The term does not mean any water system, sewer system, land, or water outside of a building or structure described in subsection (2)(a).

(3) "Surface material" means any porous or nonporous substance common to the interior of a building or structure, including but not limited to ceilings and walls, window coverings, floors and floor coverings, counters, furniture, heating and cooling duct work, and any other surfaces to which inhabitants of the building or structure may be exposed.

**Section 3. Decontamination standards -- rulemaking authority -- samples.** (1) The decontamination standard for methamphetamine inside inhabitable property is less than or equal

to 0.1 micrograms of methamphetamine per 100 square centimeters of surface material unless a different standard is adopted by the department by rule to protect human health. The department may adopt standards by rule for precursors to methamphetamine that are consistent with the standard for methamphetamine.

(2) (a) The department may by rule establish the number and locations of surface material samples to be collected based on the circumstances of the contamination and acceptable testing methods.

(b) In the absence of a rule described in subsection (2)(a), at least three samples must be collected from the surface material most likely to be contaminated at each property.

**Section 4. Contractor certification -- department authority.** (1) The department is authorized to establish by rule minimum standards for the training and certification of contractors and their employees who are to perform the assessment or remediation of inhabitable property contaminated by methamphetamine residues.

(2) The department may train and test or may approve courses to train and test contractors and their employees in the proper methods of assessing, remediating, and testing inhabitable property contaminated by methamphetamine residues. If the department conducts the training and testing of contractors and their employees, it may adopt rules to provide for the assessment of reasonable fees to cover the state's costs of providing the training and testing.

(3) The department shall establish by rule procedures for the certification of contractors and their employees, including procedures for the decertification of contractors and their employees for cause. The rules may provide for the assessment of reasonable fees to cover the cost of the contractor certification program.

(4) Any contractor and the contractor's employees certified to perform the remediation of inhabitable property in any other state are approved for certification in Montana unless the department determines that the certification process in the other state is not substantially similar to the minimum certification standards established by the department.

(5) The department shall maintain a list of certified contractors and shall make the list available to local health officials, law enforcement officials, and the public.

**Section 5. Occupant notice by owner of inhabitable property -- immunity.** (1) An owner of inhabitable property that is known by the owner to have been used as a clandestine methamphetamine drug lab shall notify in writing any subsequent occupant or purchaser of the inhabitable property of that fact if the inhabitable property has not been remediate to the standards established in [section 3] by a contractor who is certified in accordance with [section 4].

(2) An owner or an owner's agent referred to in subsection (1) may provide notice to a subsequent occupant or purchaser that the owner or the owner's agent has submitted:

(a) documentation to the department by a contractor who is certified pursuant to [section 4] that the inhabitable property has been remediated to the standards established in [section 3]; or

(b) documentation by a certified contractor that the property meets the decontamination standards without decontamination.

(3) Notice as required or authorized in this section must occur before agreement to a lease or sale of the inhabitable property.

(4) If the department has confirmed that the decontamination standard provided for in [section 3] has been met and if notice has been given as provided in subsections (2) and (3), the owner and the owner's agent are not liable in any action brought by a person who has been given notice that is based on the presence of methamphetamine in an inhabitable property.

(5) The immunity provided for in subsection (4) does not apply to an owner or an owner's agent who caused the methamphetamine contamination.

**Section 6. Reporting requirements.** (1) Whenever a state or local law enforcement agency becomes aware that an inhabitable property has been contaminated by its use as a clandestine methamphetamine drug lab, the agency shall report the contamination to the department and to the local health officer.

(2) The department shall maintain a list of inhabitable property that has been reported as contaminated, and the list must be made available to the public through a website except as provided in subsection (3).

(3) Upon confirmation by the department that an inhabitable property has been properly remediated to the standards established in [section 3] or that the inhabitable property meets the decontamination standards without decontamination, the department shall remove the inhabitable property from the list required in subsection (2). The department shall provide written notification to the local health officer and the property owner of record when the documentation shows that the inhabitable property has been properly assessed or remediated.

(4) The department may adopt rules establishing reasonable requirements for the sufficiency of documentation to be provided by a certified contractor.

(5) Notwithstanding any other provision of law, once an inhabitable property has been removed from the list required in subsection (2), a property owner, landlord, or real estate agent is not required to report or otherwise disclose the past contamination.

**Section 7. Codification instruction.** [Sections 1 through 6] are intended to be codified in Title 75, chapter 10.

- END -

**Latest Version of HB 60** (*HB0060.ENR*)

Processed for the Web on April 20, 2005 (5:49pm)

New language in a bill appears underlined, deleted material appears stricken.

Sponsor names are handwritten on introduced bills, hence do not appear on the bill until it is reprinted.

See the

Prepared by Montana Legislative Services  
(406) 444-3064

## Appendix B

EXAMPLES OF STATE METHAMPHETAMINE LAB CLEANUP GUIDELINES  
WISCONSIN  
COLORADO

# **Wisconsin Department of Health and Family Services**

## **Cleaning Up Hazardous Chemicals at Former Meth Labs**

For a printable version (pdf) of this fact sheet, [click here](#)

*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.*

### **Frequently Asked Questions**

[What is methamphetamine?](#)

[What chemicals is meth made from?](#)

[What happens after a meth lab is discovered?](#)

[Next steps for local health departments called in after a lab seizure](#)

[Will exposure to chemicals in a meth lab result in harmful health effects?](#)

[What kind of protective equipment can prevent chemical exposure?](#)

[How can a meth lab be cleaned up?](#)

[Is sampling needed at former labs?](#)

[What are acceptable clean up levels for buildings?](#)

[General guidelines for building clean up](#)

[Summary steps for building clean up](#)

[Should testing be done after clean up?](#)

[For more information](#)

### **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.

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

#### **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 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.

*PPH 7144 (Rev. 11/03)*

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### **For more information, contact:**

- Division of Public Health, BEH, 1 West Wilson Street, Rm. 150, Madison, WI 53701-2659, (608) 266-1120
- Your [local public health health department](#)
- The [Agency for Toxic Substances and Disease Registry \(ATSDR\)](#) Information Center toll-free at 1-888-422-8737 or e-mail [ATSDRIC@cdc.gov](mailto:ATSDRIC@cdc.gov)

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Last Revised:

**COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT**  
**6 CCR 1014-3**  
**STATE BOARD OF HEALTH**  
**Regulations Pertaining to the Cleanup of Methamphetamine Laboratories**  
**(Adopted January 19, 2005, effective March 30, 2005)**

1

**1.0 Purpose** - Pursuant to section 25-18.5-102, C.R.S., the Board of Health is authorized to establish standards for the cleanup of illegal laboratories used to manufacture methamphetamine, which property owners are required to meet pursuant to Section 25-18.5-103, C.R.S., except that a property owner may elect instead to demolish the contaminated property.

**2.0 Applicability** - The requirements of this section apply (1) when an owner of property has received notification from a peace officer that chemicals, equipment, or supplies indicative of a drug laboratory are located at the property, or 2) when a drug laboratory is otherwise discovered, and the owner of the property where the drug laboratory is located has received notice.

**3.0 Definitions**

“Building” means a structure which has the capacity to contain, and is designed for the shelter of, man, animals, or property, or place adapted for overnight accommodations of persons or animals, whether or not a person or animal is actually present. “Building” includes manufactured homes as defined in Section 38-29-102(6), C.R.S., and mobile homes as defined in Section 38-12-201.5(2), C.R.S..

“Certified Industrial Hygienist” or “CIH” means an individual who is certified by the American Board of Industrial Hygiene or its successor.

“Chemical storage area” means any area where chemicals used in the manufacture of methamphetamine are stored or have come to be located.

“Cleanup level” means the numerical value, established in section 7.0 of this regulation, that causes the consultant to determine if an area is compliant or noncompliant based on the results of sampling conducted in accordance with the sampling procedures presented in Appendix A.

“Consultant” means a Certified Industrial Hygienist or Industrial Hygienist who is not an employee, agent, representative, partner, joint venture participant, shareholder, parent or subsidiary company of the contractor.

“Contaminant” means a chemical residue that may present an immediate or long-term threat to human health and the environment.

“Contamination” or “Contaminated” means the presence of chemical residues, which may present an immediate or long-term threat to human health or the environment.

“Contractor” means one or more individuals or commercial entities hired to perform work in accordance with the requirements of this regulation.

“Cooking area” means any area where methamphetamine manufacturing is occurring or has occurred.

“Decision level” means that concentration, relative to the cleanup level, that shall be used to distinguish between compliant and non-compliant areas. The calculation for the decision level for composite samples is found in Appendix A, Composite Decision Level.

“Decontamination” means the process of reducing the level of contamination to the lowest practical level using currently available methods. At a minimum, decontamination must reduce contamination of specified substances below the concentrations allowed by this regulation.

“Demolition” means the wrecking or taking out of any load-supporting structural member, including any related handling operations.

“Department” means the Colorado Department of Public Health and Environment.

“Disposal” means handling, transportation and ultimate disposition of materials removed from contaminated properties.

“Documentation” means preserving a record of an observation through writings, drawings, photographs, or other appropriate means.

“Encapsulation” means applying a surface sealant to create a physical barrier intended to decrease or to eliminate the potential for exposure to residual contaminants that may exist beneath the physical barrier even after decontamination.

“Functional space” means a space where the spread of contamination may be expected to occur relatively homogeneously, compared to other functional spaces. The “functional space” may be a single room or a group of rooms, designated by a consultant who, based on professional judgment, considers the space to be separate from adjoining areas with respect to contaminant migration. Other typical examples of functional spaces include a crawl space, an attic, and the space between a dropped ceiling and the floor or roof deck above.

“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.

“Independent” means that a person is not an employee, agent, representative, partner, joint venturer, shareholder, or parent or subsidiary company of another person.

“Individual sewage disposal system” or “ISDS” means an absorption system of any size or flow or a system or facility for treating, neutralizing, stabilizing, or disposing of sewage which is not part of or connected to a sewage treatment works.

“Industrial Hygienist” means an industrial hygienist as defined in Section 24-30-1402, C.R.S.

“Media” means the physical material onto which a sample substrate is collected. Media includes cotton gauze, glass fiber filters, MCE membranes, etc.

“Methamphetamine” means dextro-methamphetamine, levo-methamphetamine, and unidentified isomers of the same, any racemic mixture of dextro/levo methamphetamine, or any mixture of unidentified isomers of methamphetamine. The term includes derivatives, conjugates, oxides, and reduced forms of the basic structure associated with

CAS registration number 537-46-2. For the purposes of this regulation, this term also includes amphetamine (CAS 300-62-9), ephedrine (CAS 299-42-3), and pseudoephedrine (CAS 90-82-4).

“Microvacuum sample” or “Vacuum sample” means a non-airborne dust sample collected from a known surface area of a porous surface or material using standard microvacuum sampling techniques as described in Appendix A of these regulations.

“Negative air unit” means a portable exhaust system equipped with HEPA filtration and capable of maintaining a constant high velocity airflow out of the contaminated area, resulting in a constant low velocity air flow into the contaminated area from adjacent uncontaminated areas

“Person” means any individual, public or private corporation, partnership, association, firm, trust or estate; the state or any executive department, institution, or agency thereof; any municipal corporation, county, city and county, or other political subdivision of the state; or any other legal entity whatsoever which is recognized by law as the subject of rights and duties.

“Publicly owned treatment works” or “POTW” means a publicly owned domestic wastewater treatment facility. The term also means the municipality, as defined in 502(4) of the Clean Water Act, 33 U.S.C. § 1362(4), which has jurisdiction over the indirect discharges to and the discharge from such treatment works.

“Preliminary assessment” means an evaluation of a property to determine the current condition, including the nature and extent of observable or detectable contamination, chemical storage and disposal.

“Property” means anything that may be the subject of ownership or possession, including, but not limited to, land, buildings, structures, vehicles and personal belongings.

“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.

“Removal” means the taking out or stripping of material or surfaces to eliminate the potential for exposure to contaminants on or in the material or surfaces.

“Substrate” means the material being collected. Substrates may include soils, water, painted surfaces, carpet debris, unidentified powders, dust, etc.

“Vehicle” means any object defined as a “vehicle” in section 42-1-102, C.R.S. “Vehicle” includes recreational vehicles, campers, buses with a toilet and a galley, trailers as defined in section 42-1-102(105) C.R.S., trailer coaches as defined in 42-1-102(106)(a) C.R.S., and motor homes as defined in § 42-1-102(57), C.R.S.

“Waste disposal area” means any area where chemicals used or generated in the manufacture of methamphetamine are disposed or have come to be located.

“Wipe sample” means a surface sample collected by wiping a sample media on the surface being sampled in accordance with Appendix A.

**4.0 Preliminary Assessment.** A preliminary assessment shall be conducted by the consultant, in accordance with section 6.7 of this regulation, prior to the commencement of property

decontamination. Information gained during the preliminary assessment shall be the basis for property decontamination and clearance sampling. Contractors and consultants shall use appropriate personal protective equipment during the preliminary assessment. Access to the property shall be limited to those with appropriate training and personal protective equipment. Information collected during the preliminary assessment shall include, but not be limited to, the following:

- 4.1. Property description including physical address, legal description, number and type of structures present, description of adjacent and/or surrounding properties, and any other observations made.
- 4.2 Review of available law enforcement reports that provide information regarding the manufacturing method, chemicals present, cooking areas, chemical storage areas, and observed areas of contamination or waste disposal.
- 4.3. Identification of structural features that may indicate separate functional spaces, such as attics, false ceilings and crawl spaces, basements, closets, and cabinets.
- 4.4. Identification of manufacturing methods based on observations and law enforcement reports.
- 4.5. Identification of chemicals used, based on observations, law enforcement reports, and knowledge of manufacturing method(s).
- 4.6 Identification and documentation of areas of contamination. This identification may be based on visual observation, law enforcement reports, proximity to chemical storage areas, waste disposal areas, or cooking areas, or based on professional judgment of the consultant; or the consultant may determine that assessment sampling is necessary to verify the presence or absence of contamination. If the consultant determines that assessment sampling is necessary, such sampling shall be conducted in accordance with the sampling protocols presented in Appendices A and D. Sample analysis shall be conducted in accordance with the method requirements presented in Appendices B and D.
- 4.7. Identification and documentation of chemical storage areas.
- 4.8. Identification and documentation of waste disposal areas.
- 4.9. Identification and documentation of cooking areas.
- 4.10. Identification and documentation of signs of contamination such as staining, etching, fire damage, or outdoor areas of dead vegetation.
- 4.11. Inspection of plumbing system integrity and identification and documentation of potential disposal into the sanitary sewer or an individual sewage disposal system (ISDS). If the consultant determines that field screening and/or sampling of an ISDS is necessary to determine if methamphetamine lab wastes have been disposed of into an ISDS, such field screening and/or sampling shall be conducted in accordance with the field screening and sampling protocols presented in Appendix D. Sample analysis shall be conducted in accordance with the method requirements presented in Appendices B and D.
- 4.12. Identification of adjacent units and common areas where contamination may have spread or been tracked.

- 4.13. Identification and documentation of common ventilation systems with adjacent units or common areas.
- 4.14. Photographic documentation of property conditions, including cooking areas, chemical storage areas, waste disposal areas, and areas of obvious contamination.

**5.0 Decontamination Procedures.** Decontamination shall be conducted to reduce the concentration of contaminants to the levels specified in Section 7.0 of this regulation. Decontamination shall be conducted in accordance with procedures designed to protect workers, future occupants, neighbors and the general public, and shall include, but not be limited to, the following:

- 5.1. A negative air unit, equipped with a HEPA filtration system, shall be used throughout the decontamination process to reduce airborne particulates.
- 5.2 Detergent water washing of non-porous, porous and semi porous surfaces that are contaminated, or that are reasonably expected to be contaminated, that will not be removed.
- 5.3. Removal of all contaminated material that will not or cannot be decontaminated to cleanup levels specified in Section 7.0 of the regulation. Removal of all contaminated materials if sampling cannot demonstrate that cleanup levels have been met. Any removal of asbestos or lead based paint must be conducted in accordance with all Federal, State and local requirements.
- 5.4. Encapsulation of porous and semi porous surfaces may be conducted after detergent water washing and after clearance sampling has demonstrated that cleanup levels have been achieved.
- 5.5. Decontamination of ventilation systems by a contractor that is trained and equipped to comply with the protocol for ventilation system decontamination presented in Appendix C of these regulations.
- 5.6. Water flushing of plumbing systems connected to the sanitary sewer to eliminate any residual chemicals.
- 5.7. Inspection of individual sewage disposal systems (ISDSs) and, if warranted, testing in accordance with the protocol presented in Appendix D of these regulations, to determine if the ISDS has been impacted by methamphetamine lab derived chemical wastes.

5.8. Personal Property

- 5.8.1 Personal property must either be decontaminated to the cleanup levels specified in section 7.0 of this regulation, or properly disposed in accordance with these regulations.
- 5.8.2 Personal property that will not be disposed of must be sampled in accordance with procedures described in Appendix A of this regulation. Discrete samples must be collected from each individual item, except as provided in 5.8.3.

- 5.8.3 Composite samples may be collected in accordance with the following procedure. Composite samples must be taken from items constructed of like materials that are contained within the same individual functional space (e.g., clothing from a bedroom closet may be sampled as a composite, fabric furniture within a living room may be sampled as a composite, draperies within an individual room may be sampled as a composite, non-porous goods such as wood or metal tables, shelves, cabinets, etc. in the same room may be sampled as a composite, etc.). A composite sample is considered representative of contaminant levels on all personal property of that type material within the same functional space. No more than 5 individual items may be included in any one composite sample. Should analysis of composite samples from multiple items indicate methamphetamine levels in excess of the cleanup level, all items comprising the composite sample will be considered to be in excess of cleanup levels.
- 5.9. Waste management shall be conducted in accordance with the Colorado Hazardous Waste Regulations (6 CCR 1007-3) and the Colorado Solid Waste Regulations (6 CCR 1007-2). Debris and contaminated material generated during methamphetamine lab decontamination shall be managed as solid waste, with notification provided to the landfill for methamphetamine lab contaminated material. Wash water can be containerized for offsite disposal, or disposed to the sanitary sewer with approval from the POTW. Wastes removed from ISDSs shall be disposed of as either solid or hazardous waste based on results of laboratory analysis as described in Appendix D of these regulations.
- 5.10. Any demolition of all or part of a structure shall be conducted in accordance with all local State and Federal requirements.

## **6.0 Sampling and Analytical Procedures.**

- 6.0.1 Except as provided in 6.0.2, assessment sampling shall be conducted as part of the preliminary assessment to characterize the nature and extent of contamination. Assessment sampling and laboratory analysis shall be conducted in accordance with Appendices A, B and D of these regulations.
- 6.0.2 As provided in Appendix A of these regulations, the consultant may determine that some areas should be deemed to be contaminated based on data other than assessment sampling. Areas that are deemed to be contaminated do not need to be sampled as part of the preliminary assessment.
- 6.0.3 Post-decontamination clearance sampling shall be conducted to verify that cleanup standards have been met. Sample collection and laboratory analysis shall be conducted in accordance with the procedures set forth in Appendices A, B and D of these regulations.
- 6.1. Locations of samples shall be based on information gathered during the preliminary assessment. Samples shall be collected from:
- 6.1.1. Areas expected to have the highest levels of contamination, such as cooking areas, chemical storage areas, and waste disposal areas.
- 6.1.2. Areas where contamination may have migrated, such as adjacent rooms or units, common areas, and ventilation systems.

6.2. The number and type of samples shall be based on the size of the area or material, the chemical or contaminant being tested for, and the purpose of the sample (i.e., initial assessment or final clearance).

6.2.1. Discrete sampling is required in all cases, except as provided in 6.2.2 of these regulations.

6.2.2. Composite sampling may only be conducted in situations where contamination is expected to be relatively evenly dispersed throughout a given area, and composite sampling will provide an accurate representation of the area sampled, as described in Appendix A.

6.3. Sample handling, including labeling, preservation, documentation, and chain-of-custody, shall be conducted in a manner consistent with the requirements of the analytical method being used.

6.4. Analytical methods shall be based on the compound being sampled for. Sample analysis shall be conducted in accordance with the method requirements presented in Appendices B and D of these regulations.

6.5 If the property has an ISDS, evaluation and sampling of the ISDS shall be conducted in accordance with Appendix D of these regulations. The investigation and cleanup of soil, surface water and groundwater contamination resulting from disposal of methamphetamine lab wastes into an ISDS shall be conducted in accordance with either the Colorado Hazardous Waste Regulations, or the Colorado Solid Waste Regulations, as appropriate based on sampling results, and with Water Quality Control Commission Regulations 31 and 41.

6.6. Quality Control/Quality Assurance (QA/QC) samples, including sample blanks, field duplicates, matrix spike and matrix spike duplicates, shall be collected and/or analyzed as specified in the sampling and analysis protocols presented in Appendices A, B and D of these regulations. Laboratory QA/QC shall be conducted in accordance with method requirements as specified in Appendix B of these regulations.

6.7. To prevent any real or potential conflicts of interest, consultants conducting preliminary assessments and post-cleanup assessments must be independent of the company or entity that will subsequently conduct the drug lab cleanup, except as provided in 6.7.1.

6.7.1 Consultants need not be independent of the company or entity that will subsequently conduct the drug lab cleanup if both the consultant and the cleanup entity are employees of the property owner, provided the property owner was not involved in drug manufacturing that resulted in contamination of the property.

**7.0 Cleanup Levels.** The following cleanup levels shall be used to determine if a property has been adequately decontaminated. They may also be used during the preliminary assessment to demonstrate that a property, or portion of a property, is not contaminated. All properties must meet the cleanup level for methamphetamine. Additional cleanup levels that may be applied to a property shall be based on information gained during the preliminary assessment.

7.1. Surface wipe samples and vacuum samples for methamphetamine shall not exceed a concentration of  $0.5 \mu\text{g} / 100 \text{ cm}^2$ .

- 7.2. If there is evidence of iodine contamination on materials or surfaces that will not be removed, surface wipe samples for iodine shall not exceed a concentration of  $22 \mu\text{g}/100 \text{ cm}^2$ .
- 7.3. If the preliminary assessment indicates the phenyl-2-propanone (P2P) method of methamphetamine manufacturing was used, surface wipe samples for lead shall not exceed a concentration of  $40 \mu\text{g}/\text{ft}^2$ , and vapor samples for mercury shall not exceed a concentration of  $1.0 \mu\text{g}/\text{m}^3$ .
- 7.4. The investigation and cleanup of outdoor contamination, including soil, surface water and groundwater, shall be conducted in accordance with the Colorado Hazardous Waste Regulations, the Colorado Solid Waste Regulations, and Water Quality Control Commission Regulations 31 and 41.

**8.0 Reporting.** A final report shall be prepared by the consultant to document the decontamination process and demonstrate that the property has been decontaminated to the cleanup levels listed in Section 7.0 of these regulations. The final report shall include, but not be limited to, the following:

- 8.1. Property description including physical address, legal description, ownership, number and type of structures present, description of adjacent and/or surrounding properties, and any other observations made.
- 8.2. Description of manufacturing methods and chemicals used, based on observations, law enforcement reports and knowledge of manufacturing method.
- 8.3. If available, copies of law enforcement reports that provide information regarding the manufacturing method, chemicals present, cooking areas, chemical storage areas, and observed areas of contamination or waste disposal.
- 8.4. A description of chemical storage areas, with a figure documenting location(s).
- 8.5. A description of waste disposal areas, with a figure documenting location(s).
- 8.6. A description of cooking areas, with a figure documenting location(s).
- 8.7. A description of areas with signs of contamination such as staining, etching, fire damage, or outdoor areas of dead vegetation, with a figure documenting location(s).
- 8.8. The results of inspection of plumbing system integrity and identification of sewage disposal mechanism.
- 8.9. A description of adjacent units and common areas where contamination may have spread or been tracked.
- 8.10. Identification of common ventilation systems with adjacent units or common areas.
- 8.11. A description of the sampling procedures used, including sample collection, handling, and QA/QC.
- 8.12. A description of the analytical methods used and laboratory QA/QC requirements.

- 8.13. A description of the location and results of initial sampling (if any), including a description of sample locations and a figure with sample locations and identification.
- 8.14. A description of the health and safety procedures used in accordance with OSHA requirements.
- 8.15. A description of the decontamination procedures used and a description of each area that was decontaminated.
- 8.16. A description of the removal procedures used and a description of areas where removal was conducted, and the materials removed.
- 8.17. A description of the encapsulation procedures used and a description of the areas and/or materials where encapsulation was performed.
- 8.18. A description of the waste management procedures used, including handling and final disposition of wastes.
- 8.19. A description of the location and results of post-decontamination samples, including a description of sample locations and a figure with sample locations and identification.
- 8.20. Photographic documentation of pre- and post-decontamination property conditions, including cooking areas, chemical storage areas, waste disposal areas, areas of obvious contamination, sampling and decontamination procedures, and post-decontamination conditions.
- 8.21. Consultant statement of qualifications, including professional certification or qualification as an industrial hygienist as defined in section 24-30-1402, C.R.S., and description of experience in assessing contamination associated with methamphetamine labs.
- 8.22. Certification of procedures and results, and variations from standard practices.
- 8.23. A signed certification statement in one of the following forms, as appropriate:

“I do hereby certify that I conducted a preliminary assessment of the subject property in accordance with 6 CCR 1014-3, § 4, and that I conducted post-decontamination clearance sampling in accordance with 6 CCR 1014-3, § 6. I further certify that the property has been decontaminated in accordance with the procedures set forth in 6 CCR 1014-3, § 5, and that the cleanup standards established by 6 CCR 1014-3, § 7 have been met as evidenced by testing I conducted.”

“I do hereby certify that I conducted a preliminary assessment of the subject property in accordance with 6 CCR 1014-3, § 4. I further certify that the cleanup standards established by 6 CCR 1014-3, § 7 have been met as evidenced by testing I conducted.”
- 8.24. Signature of the consultant.
- 8.25. The property owner and consultant shall each retain a copy of the report for a period of seven years.

8.26 To obtain the immunity provided in § 25-18.5-103(2), C.R.S., the owner must provide a copy of the report to the governing body. It is advisable to submit the report by certified mail, return receipt requested, or some other method that provides an acknowledgement of receipt by the governing body.

**9.0 Referenced Materials.** These regulations incorporate by reference (as identified within) materials originally published elsewhere. These regulations do not include later amendments to or editions of the incorporated materials. The Department of Public Health and Environment maintains copies of the complete text of the incorporated materials for public inspection during regular business hours, and shall provide certified copies of any non-copyrighted material to the public at cost upon request.

Information regarding how the incorporated materials may be obtained or examined is available from:

Division Director  
Hazardous Materials Waste Management Division HMWMD-B2  
Colorado Department of Public Health and Environment  
4300 Cherry Creek Drive South  
Denver, CO 80246

Copies of the incorporated materials have been provided to the State Publications Depository and Distribution Center, and are available for interlibrary loan. The incorporated materials may be examined at any state publications depository library.

#### **List of Materials Incorporated by Reference**

American Society for Testing and Materials (ASTM) Method D3278-96e1 (October 1997), Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester.

American Society for Testing and Materials (ASTM) Method D5756-02 (November 2002), Standard Test Method for Microvacuum Sampling and Indirect Analysis of Dust by Transmission Electron Microscopy for Asbestos Mass Concentration.

American Society for Testing and Materials (ASTM) Method D93-02a (December 2002), Standard Test Methods for Flash Point by Pensky-Martens Closed Tester.

Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup, EPA-560/5-86-017 (May 1986).

National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services (DHHS), NIOSH Manual of Analytical Methods (NMAM), 4th. Ed., DHHS (NIOSH) Publication No. 94-113 (August, 1994), 1<sup>st</sup> supplemental publication 96-135 (1996), 2<sup>nd</sup> supplement publication 98-119 (1998):

Method 6009, Mercury (Issue 2, August 1994).

Method 9100, Lead in Surface Wipe Samples (Issue 2, May 1996).

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846 [Third Edition (November 1986), as amended by Updates I (dated July 1992), II (dated September 1994), IIA (dated August 1993), IIB (dated January 1995), III (dated December 1996) and IIIA (dated April 1998)]:

Method 1010, Pensky-Martens Closed-Cup Method for Determining Ignitability (Revision O, September 1986).

Method 1020A, Setaflash Close-Cup Method for Determining Ignitability (Revision 1, July 1992).

Method 1110, Corrosivity Toward Steel (Revision O, September 1986).

Method 6020, Inductively Coupled Plasma – Mass Spectrometry (Revision O, September 1994).

Method 8260B, Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Revision 2, December 1996).

Method 9014, Titrimetric and Manual Spectrophotometric Determinative Methods for Cyanide (Revision O, December 1996).

Method 9021, Purgeable Organic Halides (POX) (Revision O, December 1996).

Method 9034, Titrimetric Procedure for Acid-Soluble and Acid Insoluble Sulfides (Revision O, December 1996).

Method 9040B, pH Electrometric Measurement (Revision 2, January 1995).

<http://www.tchd.org/methlab.htm> Complete Copy of Colorado Department of Public Health and Environment, State Board of Health; *REGULATIONS PERTAINING TO THE CLEANUP OF METHAMPHETAMINE LABORATORIES* (6 CCR 1014-3)