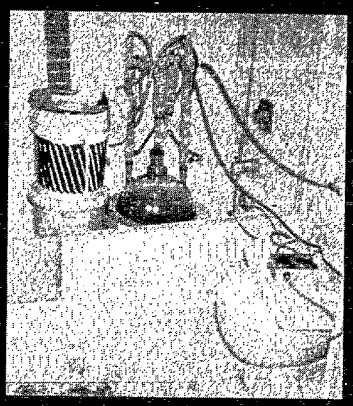
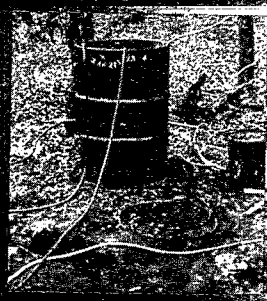
Joint Federal Task Force
Drug Enforcement Administration
Environmental Protection Agency
United States Coast Guard

Guidelines for the Cleanup of Clandestine Drug Laboratories





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JOINT FEDERAL TASK FORCE

Drug Enforcement Administration
Washington, D.C. 20537

Environmental Protection Agency
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MESSAGE FROM THE ADMINISTRATORS

The Joint Federal Task Force, consisting of the Drug Enforcement Administration, the Environmental Protection Agency and the U.S. Coast Guard, is pleased to present this copy of the *GUIDELINES FOR THE CLEANUP OF CLANDESTINE DRUG LABORATORIES*. It was prepared in response to Section 2405 of the Anti-Drug Abuse Act (P.L. 100-690) enacted by Congress on November 18, 1988, to protect public health and the environment.

The guidelines were developed for use by state and local law enforcement, environmental protection and public health agencies as a framework for developing programs for cleaning up clandestine drug laboratories. They are flexible, to allow for their application in various local situations; they contain an overview of the recommended procedures for enforcement, for safe disposal of contaminated materials, and for cleanup of residual contamination.

The guidelines will assist state and local officials address many of the issues facing them as they implement a coordinated program of drug law enforcement and clandestine drug laboratory cleanup. The issues with which they must contend include regulatory development and coordination, establishment of specialized training programs, acquisition of appropriate protective equipment, as well as funding, including the need for establishment or modification of asset forfeiture regulations in accordance with the program outlined in the President's National Drug Control Strategy.

We are confident that this document and the continued support of the Joint Federal Task Force member agencies will help resolve these issues and insure the successful implementation of coordinated state programs.

Sincerely,

John C. Lawn
Administrator
Drug Enforcement Administration

Sincerely,

William K. Reilly
Administrator
Environmental Protection Agency

540P90005

GUIDELINES FOR THE CLEANUP OF CLANDESTINE DRUG LABORATORIES

PREPARED BY:
THE JOINT FEDERAL TASK FORCE OF
THE DRUG ENFORCEMENT ADMINISTRATION,
THE U.S. ENVIRONMENTAL PROTECTION AGENCY,
THE U.S. COAST GUARD

MARCH 1990

ACKNOWLEDGMENTS

The Joint Federal Task Force consisted of members from the U.S. Drug Enforcement Administration (DEA), the U.S. Environmental Protection Agency (USEPA), and the U.S. Coast Guard (USCG). The following representatives were instrumental in developing the guidelines for cleaning up hazardous wastes at clandestine drug laboratories:

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INTRODUCTION

The Joint Federal Task Force and Its Charter

The Anti-Drug Abuse Act of 1988 (PL 100-690), Section 2405, establishes a Joint Federal Task Force on illegal (hereinafter referred to as clandestine) drug laboratories. The Task Force consists of representatives of the United States Drug Enforcement Administration (DEA) and the United States Environmental Protection Agency (USEPA), and representatives of the United States Coast Guard (USCG). Congress directed the Task Force to formulate a program for cleaning up and disposing of hazardous wastes produced by clandestine drug laboratories and to assist federal, state, and local law enforcement agencies with implementing programs.

Guidelines for Cleaning Up Clandestine Drug Laboratories

The DEA/USEPA Task Force prepared these guidelines for state and local law enforcement and health agencies to provide a framework for cleaning up clandestine drug laboratories. The guidelines contain an overview of the recommended enforcement procedures as well as safety guidelines and cleanup strategies. In addition, these Task Force guidelines were designed to be flexible and provide guidance to state and local agencies for addressing typical problems encountered at clandestine drug laboratories. The guidelines should not be used as a training manual. State and local agencies have the option to develop and implement clandestine laboratory programs which are more extensive than the program outlined in the guidance.

References are made throughout this document to pertinent federal regulations, guidance documents relevant to the evaluation and cleanup of hazardous waste sites, and chemical hazard information sources. The Task Force encourages state or local agencies to use these guidelines and the referenced documents in developing their own programs to ensure the proper cleanup of clandestine drug laboratories.

Currently, no federal guidance documents address the unique problems associated with clandestine drug laboratories. As a result, these guidelines were integrated from the experiences of DEA field investigators and USEPA regulatory and emergency response personnel, from various guidance documents developed by the USEPA for cleaning up hazardous waste sites, and from health and safety programs established by the DEA and USEPA.

Although the potential impact of clandestine drug laboratories may be less than that associated with industrial hazardous waste sites, the potential for human exposure and environmental contamination still exists. In the absence of proper safety procedures and cleanup guidelines, enforcement agents, state and local law enforcement personnel, and the public may experience both acute and chronic adverse health effects as a result of exposure to solvents, reagents, precursors, by-products, and drug products improperly used or generated during the manufacture of illegal drugs.

Regulatory requirements must also be considered. In probably all clandestine drug laboratory seizures, the operators of the laboratory generating hazardous waste have not followed USEPA storage or disposal

procedures. Under USEPA regulations implementing the Resource Conservation and Recovery Act (RCRA), a generator of hazardous waste is "any person, **by site**, whose act or process produces hazardous waste... **or whose act first causes a hazardous waste to become subject to regulation**" (40 CFR 260.10). In seizing a clandestine drug laboratory, the law enforcement agency may encounter materials that technically qualify as hazardous wastes and therefore are "subject to regulation". If those wastes exceed certain minimal quantities, the law enforcement agency becomes a hazardous waste generator and is required to adhere to waste disposal regulations promulgated under RCRA, and to regulations governing the transportation of hazardous materials promulgated by the Department of Transportation (DOT).

The difficulty of securing sources of funding for cleaning up clandestine drug laboratories faces almost every state, local and regional law enforcement office in the country. Asset forfeiture, as outlined in the President's National Drug Control Strategy, is one mechanism which could be used for financing cleanup activities.

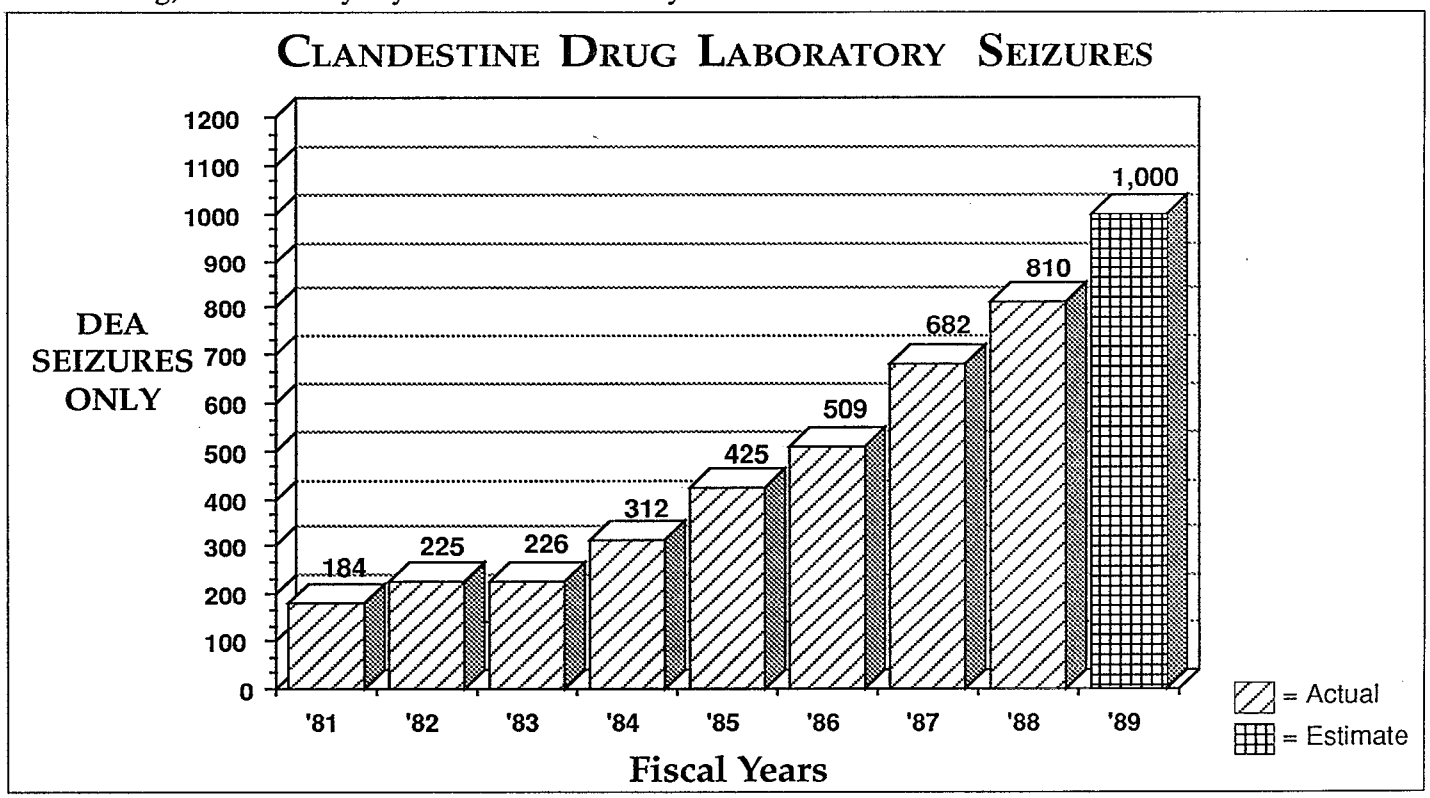
Under asset forfeiture, all assets derived from illegal drug transactions or used to facilitate such transactions may be confiscated and used by the law enforcement officials to pay the cleanup costs. Law enforcement agents should assume that assets are derived from drug enterprises if authorities can show that there is no other likely source of income. State, local and regional law enforcement agencies are encouraged to develop and implement their own asset forfeiture programs as a means to provide specialized training and protective equipment, and to recover investigative and cleanup costs associated with clandestine drug laboratory seizures.

WHAT IS THE PROBLEM?

Large quantities of illegal drugs are produced in the United States. Clandestine drug laboratories, in violation of the Controlled Substances Act (PL 91-513), manufacture stimulants, depressants, hallucinogens, and narcotics. These laboratories could satisfy the current domestic illegal drug demand even if the entry of all drugs from foreign source countries were halted.

WHAT IS A CLANDESTINE DRUG LABORATORY?

Domestic clandestine drug laboratories range from crude makeshift operations to highly sophisticated and technologically advanced facilities, some of which are mobile. They can be set up anywhere and are often found in private residences, motel and hotel rooms; apartments, house trailers, houseboats, campgrounds, and commercial establishments. Often these laboratories are hidden in nondescript houses or barns in remote rural areas. Many of these facilities contain sophisticated surveillance equipment and are booby-trapped both to prevent intruders and law enforcement personnel from entering, and to destroy any evidence if the facility is discovered.



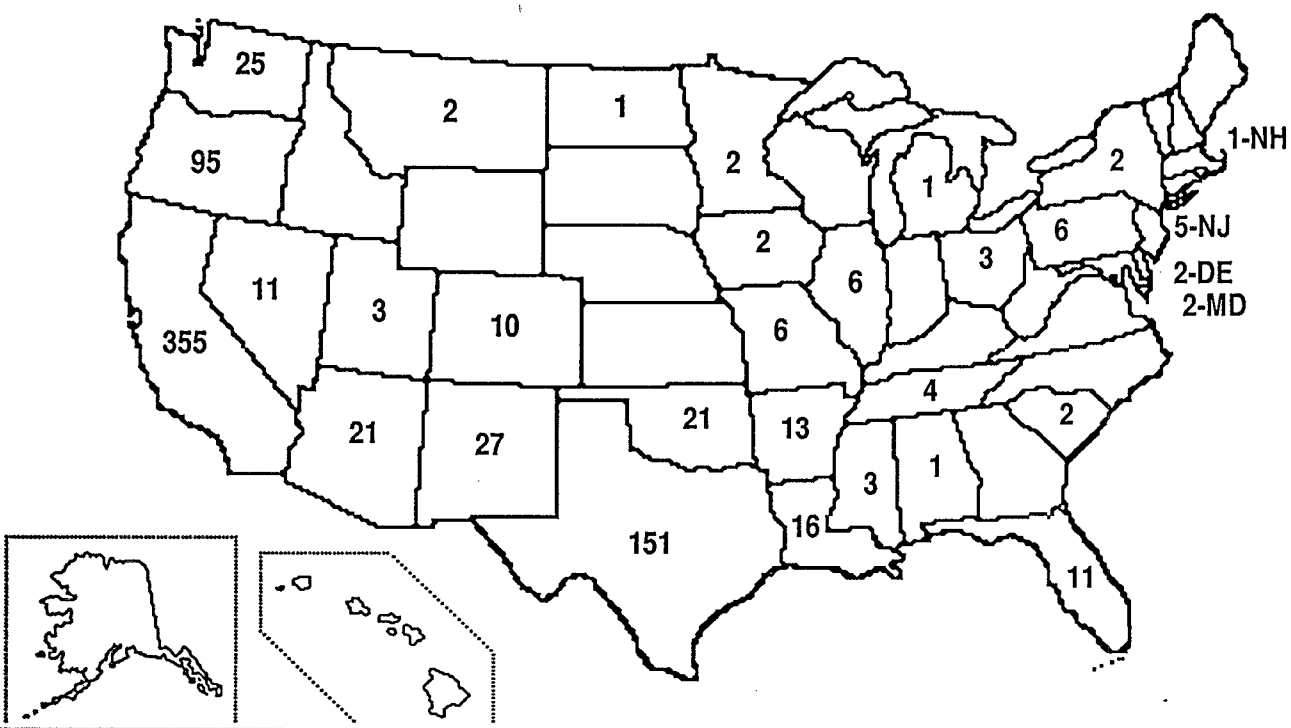
HOW MANY CLANDESTINE DRUG LABORATORIES EXIST?

More clandestine drug laboratories are operating in the United States than ever before, which increases the availability of drugs such as stimulants and hallucinogens. This increase is attributed to the availability of precursor chemicals and the increasing popularity, ease of manufacture, low production costs, and high profits of the drugs. DEA enforcement actions against these laboratories have increased dramatically throughout the 1980's by 22 – 25% per year (see graph on this page). According to DEA statistics, the number of laboratories seized has grown from 184 laboratories in FY 1981 to 810 laboratories in FY 1988. While these numbers are significant, they do not include all the laboratories seized by state and local law enforcement agencies.

WHERE IS THE PROBLEM?

Although the problem is a national one, four states account for 78% of all types of laboratories seized by DEA in FY 1988: California (44%), Texas (19%), and Oregon and Washington (15% combined).

FY 1988 DEA Clandestine Drug Laboratory Seizures



WHO OPERATES CLANDESTINE DRUG LABORATORIES?

The operators of these laboratories range from novices with little or no chemistry background to chemists with Ph.D. degrees. Organized gangs (e.g., motorcycle, street, etc.) historically have manufactured and distributed amphetamines and phencyclidine (PCP).

The "recipes" for most of the illegal drugs are relatively simple and are available through both legal and illegal sources. Many of the drugs produced by these laboratories can be made with easily obtainable chemicals, and equipment that is not much more sophisticated than that found in a typical high school chemistry laboratory. It does not require special training or facilities to produce illegal drugs. Therefore, anyone motivated by the high profit potential can get involved in the illegal drug manufacturing business.

WHAT ARE THE DRUGS AND HAZARDOUS WASTES PRODUCED?

DEA statistics indicate that the majority of the laboratories produce three drugs: methamphetamine (82%), amphetamine (10%), and PCP (2.5%). Laboratories which manufacture these drugs account for approximately 95% of the total number of laboratories seized in FY 1988. However, many different substances are also produced by clandestine drug laboratories. The number is constantly growing as new controlled substance analogs ("designer drugs") are developed in an attempt to circumvent controlled substance laws.

When a clandestine drug laboratory is seized, hazardous waste/materials, such as chemicals and contaminated glassware and equipment, must be disposed of properly. These materials weigh from a few pounds to several tons

and include solvents, reagents, precursors, by-products, and the drug products themselves. Many of these materials are reactive, explosive, flammable, corrosive, and/or toxic. Table 1 provides examples of representative chemicals associated with methamphetamine laboratories and lists some of their hazardous properties. Additional listings of the health effects from exposure to the most commonly encountered chemicals associated with clandestine drug laboratory types are presented in Appendix A. This listing includes most of the laboratory types and represents the broad spectrum of chemical hazards. For more detailed information on health effects and other properties of hazardous chemicals, refer to references 1 to 9.

TABLE 1: SOME TYPICAL CHEMICALS FOUND IN CLANDESTINE METHAMPHETAMINE LABORATORIES

(NOT ALL INCLUSIVE)

Chemical	Acute Toxicity*	Flammability*	Other Properties
Acetic anhydride	Moderate	Moderate	Irritant, Corrosive
Benzene	Moderate-High	High	Blood Disorders, Carcinogen
Chloroform	Moderate	Low	Incoordination, Probable Carcinogen
Ethanol	Low	High	Incoordination
Hydrogen Cyanide	Extreme	Low	Rapid asphyxia
Hydrochloric Acid	High	Low	Irritant, Corrosive
Hydriodic Acid	High	Low	Irritant, Corrosive
Lead Acetate	High	Low	Blood Disorders
Lithium Aluminum Hydride	Moderate	High	Water reactive Explosive
Mercury Chloride	High	Low	Irritant, Corrosive
Methylamine	High	Extreme	Corrosive
Petroleum Ether	Low	Extreme	Incoordination
Phenylacetic Acid	Low	Low	Irritant
Phosphine	High	Extreme	Reactive Rapid asphyxia
Red Phosphorus	Low	Low	Reactive & Explosive
Sodium (metal)	High	Low	Water reactive Corrosive
Thionyl Chloride	High	Low	Water reactive Corrosive

* Based primarily on National Fire Protection Association Standards

Although the quantities of hazardous materials found at a typical clandestine drug laboratory are relatively small when compared to a typical hazardous waste site, the substances to which law enforcement personnel and others may be exposed present very real public health concerns.

Clandestine drug laboratories may contaminate water sources and/or soil. In some cases, contamination may spread off-site. Careless or intentional dumping by the illegal laboratory operator is not the only source of contamination. The chemical reactions which occur during the manufacturing of illegal drugs may produce toxic vapors that permeate into the building's plaster and wood or may be vented outside. The problems are further complicated when the chemicals are stored at off-site locations such as rental lockers. The lack of proper ventilation and temperature controls at these off-site locations add to the potential for fire, explosion, and human exposure.

WHO IS EXPOSED TO THESE HAZARDS?

Clandestine drug laboratories may present both acute and chronic health risks to individuals involved in the seizure and cleanup of the facility, to those who live or work nearby, and to the violator operating the facility.

The raw chemical materials and the by-products of the drug manufacturing process are often disposed of indiscriminately by the outlaw-laboratory operator to avoid detection. This can pose a significant human health or environmental hazard. The operators of these laboratories have little regard for quality control or safety. Spilling chemicals on the floor or dumping waste into bathtubs, sinks, toilets, or on the grounds surrounding the laboratories, and along roads and creeks are common practices. Surface and groundwater drinking supplies could be contaminated, potentially affecting large numbers of people. Perhaps the greatest risk of long-term exposure is assumed by unsuspecting inhabitants of buildings formerly used by clandestine drug laboratory operators where residual contamination may exist inside and outside the structure.

WHAT ARE THE HAZARDS TO LAW ENFORCEMENT PERSONNEL?

The primary health concerns at a clandestine drug laboratory site are the acute hazards to law enforcement officers who carry out the raids. During a raid, the law enforcement personnel may be exposed to solvents, reagents, precursors, drug products, and by-products that are acutely toxic (i.e., irritant, corrosive, depressant, or asphyxiating). Further, many of these solvents and reagents are explosive or flammable.

Law enforcement personnel engaged in clandestine drug laboratory investigations and seizures should have specialized training in the investigation of clandestine drug laboratories, in appropriate health and safety procedures, and in the use of personal protective equipment.

ARE THERE PROCEDURES FOR DEALING WITH CLANDESTINE DRUG LABORATORY HAZARDS?

DEA and its predecessor agencies have been involved in seizing clandestine drug laboratories for several decades. While each laboratory seizure is unique and presents many types of hazards, there are standard procedures that DEA agents follow during the investigation and seizure of a clandestine drug laboratory. An overview of the DEA's approach is presented as a general model for state and local law enforcement agencies for the development of their own programs/procedures.

You Need to Know

Levels of Protection

Level A

When to use Level A:

Total encapsulated protection against known highly toxic corrosive materials which have severe acute hazards by skin contact or by gas or vapor skin absorption. For use in suspected hazardous areas where materials are not identified with certainty and the hazards are unknown.

Recommended Level A equipment:

- Pressure-demand, full-facepiece, Self-contained Breathing Apparatus (SCBA) or pressure-demand supplied-air respirator with escape SCBA
- Fully encapsulating chemical-resistant suit
- Inner chemical-resistant gloves
- Chemical-resistant safety boots/shoes
- Two-way radio communications
- Hard Hat

Level B

When to use Level B:

When the highest level of respiratory protection is needed but the environment is not considered acutely toxic to skin contact or by gas or vapor skin absorption.

Recommended Level B equipment:

- Pressure-demand, full-facepiece SCBA or pressure-demand supplied-air respirator with escape SCBA
- Chemical-resistant clothing (overalls and long-sleeved jacket; hooded, one- or two- piece chemical splash suit; disposable chemical-resistant one-piece suit)
- Inner and outer chemical-resistant gloves
- Chemical-resistant safety boots/shoes
- Hard hat
- Two-way radio communications

Level C:

When to use Level C:

When the criteria for wearing respiratory protection is present and the environment is not considered to be toxic via skin contact.

Recommended Level C equipment:

- Full-facepiece air-purifying, canister/cartridge-equipped respirator
- Chemical-resistant clothing (overalls and long-sleeved jacket; hooded, one- or two- piece chemical splash suit; disposable chemical-resistant one-piece suit)
- Inner and outer chemical-resistant gloves
- Chemical-resistant boots
- Hard hat
- Two-way radio communications
- Five minute emergency escape pack

Level D:

When to use Level D:

When the atmosphere contains no known hazard; work functions preclude splashes, immersion or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals.

Recommended Level D equipment:

- Coveralls
- Safety boots/shoes
- Safety glasses or chemical splash goggles
- Hard hat

DEA's Clandestine Drug Laboratory Safety Certification Program

The investigation of clandestine drug laboratories presents unique challenges to law enforcement personnel and requires specialized training. DEA's program consists of two separate schools: (1) Clandestine Laboratory Investigative School and (2) Clandestine Laboratory Safety School. Each of these schools is approximately one week in length, and the Investigative School is a prerequisite for attending the Safety School. The list of courses for these schools is provided in Appendix B.

The Safety School curriculum was developed in accordance with regulations promulgated by the Occupational Safety and Health Administration (OSHA) in Title 29 of the Code of Federal Regulations and with recommendations from the National Institute of Occupational Safety and Health (NIOSH).

All agents and chemists involved in these courses must complete a medical screening (see Appendix C). **Without this medical screening and training, neither agents nor chemists can participate in the entry, assessment, or processing phases of a laboratory seizure.**

The DEA program also addresses the protection of the public health and safety and the environment by employing a qualified hazardous waste disposal firm to properly manage and dispose of hazardous wastes.

An Overview Of DEA's Clandestine Drug Laboratory Seizure Protocol

When the DEA begins the investigation, routine investigative techniques are employed to gather sufficient probable cause to substantiate that a drug laboratory is operating on the premises. The DEA Special Agents then request a search warrant. If necessary, authority to destroy any hazardous bulk chemicals and equipment used in the manufacturing of illegal, dangerous drugs may be requested in the warrant. Due to the complexities of clandestine drug laboratories, a DEA forensic chemist is consulted prior to and during the seizure.

A DEA clandestine drug laboratory seizure usually proceeds in six steps: planning, entry, assessment, processing, exit, and follow-up.

Planning The Raid

In planning the raid, the case agent first makes an assessment of the hazards likely to be encountered and determines who needs to be notified before the raid (i.e., local police, fire department, emergency rooms, and hazardous waste contractor). Once the potential hazards have been considered, the case agent assigns certified teams to conduct the raid. These teams include a forensic chemist and a site safety agent who are trained and equipped with requisite safety equipment.

Initial Entry

The purpose of the initial entry is to apprehend and remove the operators and to secure the laboratory.

DEA protocol calls for the initial entry team to employ ballistic protection equipment and fire retardant clothing. Respiratory protection (i.e., SCBA) is not used by the initial entry team because it may restrict an agent's vision and mobility. This may significantly interfere with an agent's ability to defend against armed suspects. This protocol was adopted after careful consideration of the pros and cons and is based largely on the experiences of field agents.

Assessment

After securing the premises, everyone is evacuated. Then a specially trained and certified agent and forensic chemist with Level B protective equipment (see Sidebar: Levels of Protection, page 4) conduct a thorough assessment to determine what, if any, immediate health and safety risks (i.e., potential for fire and explosion, toxic vapors, booby-traps, etc.) exist. The team then takes appropriate steps to reduce imminent risks (i.e., properly shutting down active "cooking" processes, ventilating the premises, etc.). After the assessment team determines the level of risk and establishes the appropriate level of protection required, the processing phase can begin.

Processing

During the processing phase, agents photograph and videotape everything in the laboratory and then gather evidence. No materials or apparatus are moved until the certified chemist and agent have inspected and inventoried each piece of evidence. The certified chemist, in consultation with the agent, takes samples as needed for evidence. All samples are labeled, initialed, packaged, and sealed for transportation to a DEA laboratory. The recommended one-ounce sample size is typically sufficient for DEA drug analysis and, if necessary, a reanalysis. **The team does not take possession of, or transport any chemicals, glassware, or apparatus used in the laboratory other than the samples taken for evidence.** A qualified hazardous waste disposal contractor is used to remove all remaining chemicals (liquids and powders), and laboratory glassware and equipment.

DEA considers all of these materials to be contaminated and, therefore, manages them as RCRA hazardous waste. When the processing has been completed, the case agent authorizes the disposal contractor to remove and dispose of all hazardous waste. The case agent verifies and accounts for all hazardous wastes to be removed and remains at the site until the disposal contractor has completely removed the hazardous waste. Any contaminated protective clothing and equipment that cannot be decontaminated and reused is removed by the disposal contractor (see Sidebar: Hazardous Waste Statutes and Regulations, page 7).

Exit

When the removal of these hazardous wastes has been completed, the case agent conducts a final inspection of the premises, signs all documents pertaining to the site and the disposal contractor's driver log, and posts a prominent warning sign on the premises (see Appendix F).

Follow-up

Notification letters are sent by the Special Agent in Charge (SAC) of the DEA division to the property owner, with copies to appropriate health and regulatory agencies. All of these letters are sent by certified mail, return receipt requested.

DEVELOPING A STATE OR LOCAL CLANDESTINE DRUG LABORATORY PROGRAM

The DEA program just outlined provides a basic framework which each state or local law enforcement agency can use as guidance to develop and implement its own program. As the resources and particular needs of each state vary, exact duplication of the DEA program may not necessarily be possible or desirable. However, the state or local program should reflect the basic principles and considerations developed by the DEA.

The Congressional mandate to address the clandestine drug laboratory problem is based on the recognition that hazardous materials generated by these laboratories pose a significant health threat to law enforcement personnel as well as to the general public and the environment. It is essential that cooperative interaction be established between law enforcement and other state or local agencies to effectively address the clandestine laboratory problem in their jurisdiction. Although law enforcement agencies can initiate the cleanup activities through the bulk removal effort, more extensive cleanup activities should be the responsibility of non-law enforcement groups designated by the state or local governing body.

The DEA/USEPA Task Force recommends that each state appoint a lead agency to assume responsibility for developing a comprehensive clandestine drug laboratory program which addresses law enforcement and environmental/health and safety concerns. The designated lead agency may wish to transfer authority to local agencies which have the capability to respond to these situations.

Although protecting the public health and welfare is the primary goal of a clandestine drug laboratory program, the cost of the cleanup process is also a concern. USEPA has outlined its general approach to cost recovery and cleanup procedures in the National Contingency Plan (NCP) (Reference 10) and in the *EPA Superfund Removal Procedures Manual* (Reference 11). The DEA currently uses asset forfeiture funds to finance cleanup activities at clandestine drug laboratories. States could develop and implement similar strategies for recovering costs. DEA's model program on asset forfeiture can be used as a guideline for creating state asset forfeiture programs (Reference 12).

Finally, it is essential that the guidelines which are developed within each state are consistent with federal and state regulations and, where applicable, local regulations relating to the handling and disposal of hazardous wastes (see Sidebar: Hazardous Waste Statutes and Regulations, this page).

You Need to Know

Hazardous Waste Statutes and Regulations

When a law enforcement agency seizes a clandestine drug laboratory site, that agency may become a hazardous waste generator under federal law (RCRA), and may need to comply with the following regulations.

1. The Resource Conservation and Recovery Act (RCRA) as amended by the Hazardous and Solid Waste Act (HSWA) (40 CFR Parts 260 on definitions, 261 on hazardous waste determinations, 262 on generators, and 263 on transporters) governs the transportation, storage, and disposal of hazardous wastes.
2. The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), governs emergency responses for releases of hazardous substances into the environment and the cleanup of inactive hazardous waste disposal sites (40 CFR 300).
3. The Hazardous Materials Transportation Act regulates packaging, marking, labeling, and transportation of hazardous materials, including hazardous wastes (49 CFR Parts 170,171, and 172).
4. The Occupational Safety and Health Act (OSHA) regulates safety conditions in the workplace (29 CFR Part 1910.120) and establishes employee right to know provisions (Part 1200).
5. State and local regulations (can be more stringent than federal regulations governing hazardous waste).

Clandestine Drug Laboratory Safety Certification

Personnel involved in the investigation and seizure of clandestine drug laboratories must receive medical screening and specialized training (see Appendix B on Training and Appendix C on Medical Certification).

The DEA/USEPA Task Force recommends that medical screening and the specialized training programs be considered an essential part of a clandestine drug laboratory program.

Planning a Clandestine Drug Laboratory Seizure

Clandestine laboratories, by the very nature of their activities, present a unique series of hazards and risks to law enforcement personnel. The degree of hazard depends on the specific site, chemicals present, their concentrations, conditions of storage (sealed, open, or leaking containers), and their proximity to each other (which may lead to various chemical reactions). Hazards which may be expected include:

- Exposure to hazardous materials such as
  - explosive and reactive chemicals
  - flammable agents
  - acutely toxic substances
  - irritant and corrosive agents
  - possibly radioactive materials (e.g., thorium)
- booby-traps
- physical injury resulting from close quarters

Abandoned clandestine drug laboratory sites and chemical storage areas present similar hazards and similar precautions should be taken to ensure personnel safety.

The following safety procedures should be considered when planning the raid:

- Notify fire department, hazardous materials response team and police bomb squad, depending on the size of the laboratory and the degree of hazard.
- Be sure fire extinguishers and a first-aid kit are available.
- Avoid the use of shotguns or diversionary devices such as flash bangs, smoke, or tear gas canisters. These weapons can ignite fumes.
- Do not turn switches on or off. They could be booby-trapped or cause sparks.
- Do not unplug "cookers," heating elements, or cooling equipment. They could be booby-trapped or cause sparks.
- Do not open refrigerators or freezers. They could be booby-trapped or cause sparks.
- Do not move containers that are in the way. Step over or around them. They could be booby-trapped.
- Do not use matches or flames of any kind. If you have to look in dark areas, use an explosion-proof flashlight.
- Do not taste, smell, or touch any substance.
- Do not use flashbulbs on cameras as they can cause flammable solvents or fumes to ignite; use only electronic strobes.
- Do not smoke at the site.
- Do not eat or drink at the site.
- Do not touch your mouth, eyes, or other mucous membranes with your hands.
- Decontaminate clothing, equipment, and personnel (including prisoners) before leaving the laboratory site.

Initial Entry

The initial entry teams should be specially trained law enforcement officers who arrest the illegal laboratory operators and secure the site. After securing the premises, everyone is evacuated and the assessment step begins.

The DEA/USEPA Task Force recommends that state and local law enforcement agencies require that their personnel wear protective clothing, where appropriate, such as ballistic vests and fire retardant suits, when seizing clandestine drug laboratories.

Assessment: Health and Safety Protocol

Only the laboratory assessment team enters the laboratory; the laboratory is off-limits to all other personnel. The laboratory assessment team uses Level B protection (see Sidebar: Levels of Protection, page 4).

Decisions regarding the application of appropriate health and safety protocols should be made by the laboratory assessment team. This team should include a certified law enforcement officer who is knowledgeable about, and trained in, clandestine drug laboratory investigations and seizures. A certified chemist who is knowledgeable about, and trained in, illegal-drug manufacturing and knows how to safely and effectively shut down operations and collect evidentiary samples, should also be included in the team.

The team must have, and be trained in the usage of, appropriate monitoring instrumentation, such as air-sampling pumps, explosimeters, oxygen meters, organic-vapor analyzers, or other air-monitoring instruments that are used to determine the lower explosive limit (LEL) and the concentration of organic vapors in the laboratory atmosphere. All monitoring devices must be intrinsically safe (i.e., designed to suppress sparks that may ignite explosive atmospheres).

You Need to Know

Conditions Requiring Ventilation During Seizure:

The laboratory must be ventilated if:

- The concentration of oxygen is less than 19.5 or greater than 25 percent.
- The concentration of any combustible gas is greater than 25 percent of the lower explosive limit (LEL).
- The concentration of any organic vapors and gases is greater than the permissible exposure limit (PEL) or the threshold limit value (TLV) of their respective components, or generally greater than 5 parts per million if the compounds are not known.

Caution: See information on this page regarding LSD, fentanyl, alphaprodine, and MPPP laboratories.

After appropriate air measurements are taken, the next step is to identify the chemicals and equipment present in the laboratory and the potential hazards that may exist. If required, ventilation can be accomplished by opening doors and windows, provided that a natural draft exists. Before windows and doors are opened for ventilation, ascertain that they are not booby-trapped. Unless they are intrinsically safe (i.e., explosion proof), fans should not be used because sparks from the fan motor can cause flammable solvents or fumes to ignite.

It is important to note that some laboratories (e.g., those producing LSD, fentanyl, alphaprodine, and MPPP), *should not be ventilated* because of the potential for human exposure to the extremely toxic dusts or vapors if they are released into the atmosphere.

If an emergency situation exists which indicates that there is an imminent and substantial threat, or if there is a release of a reportable quantity of a hazardous substance (see 40 CFR Part 302.4), the law enforcement agency or the state or local agency involved in the clandestine laboratory investigation shall notify the National Response Center (NRC) (see Sidebar: What Information Should Be Reported to the NRC?, page 12). The NRC notifies appropriate agencies (i.e., the USEPA/USCG, state, and local government) in accordance with established procedures. In addition to NRC notification, there may be additional state and local notification requirements that need to be addressed. After notification, the cognizant agency initiates appropriate response actions to protect the public health and the environment.

The DEA/USEPA Task Force recommends that state and local authorities recognize that each clandestine drug laboratory is different, and, depending on the circumstances, different actions should be taken in seizing and securing them.

Laboratory Deactivation

Law enforcement officials should not attempt to dismantle a working laboratory without the help of qualified, trained chemists. While the procedures may appear to be simple and straightforward, the dismantling can often be complex and dangerous if not done properly. The personnel who dismantle the laboratory must be familiar with the chemicals involved, their properties, and the drug manufacturing processes. For example, extreme care should be taken if any metal hydrides (i.e., lithium aluminum hydride which ignites upon contact with water) are present. Before deactivation, it is also necessary to determine that none of the apparatus is booby-trapped.

Procedures for Deactivation

The following are some examples of procedures generally used in laboratory deactivation. Since clandestine drug laboratory deactivation is complex and potentially dangerous, a qualified chemist should assist law enforcement personnel in carrying out the process.

- Examine the setup to determine whether processing is occurring; if so, determine the type of process (heating, cooling, etc.).
- Some reactions involve a vessel that is heated on the bottom and has a tap-water cooler on top. For this type of arrangement, remove the heat and wait until the glassware is cool to the touch before stopping the water or turning off any stirrers or shakers.
- If vacuum or gravity filtration is occurring, allow the process to conclude before shutting it down.
- If fingerprints are desired, keep this in mind when the apparatus is dismantled. If required, a fingerprint technician who has received clandestine drug laboratory safety training may lift prints when the area is safe and prior to moving any equipment.
- If compressed gas is being fed into a reactor, it should be shut off **first** by turning the main valve at the top of the cylinder and then shutting off the regulator valve at the side of the tank.
- If a vacuum system is in use, it should be brought to atmospheric pressure by slowly allowing air into the system before turning off the vacuum pump.
- If there is an exothermic (heat-producing) reaction

in process, allow it to continue to completion and then cool to room temperature.

Once the laboratory has been deactivated, another set of atmospheric measurements should be taken to determine if the established safety criteria have been met (see Sidebar: Conditions Requiring Ventilation During Seizure, page 9). If the atmospheric safety criteria are not met, begin or continue ventilating and monitoring every half hour. Ventilation should continue until the safety criteria are met. If this is impractical, the next step, laboratory processing, can be accomplished with Level B protection (SCBA). If appropriate, a certified agent or chemist may downgrade the level of protection to Level C.

Processing

Processing of the clandestine drug laboratory includes taking photographs with identifying labels, making a complete inventory, taking evidentiary samples, and disposing of the bulk chemicals and apparatus.

Photographs

- Photograph everything in place
  - General overviews
  - Close-ups
  - Specific items during inventory
  - Evidentiary samples and original containers
  - Visible contamination
- Photograph site after removal of bulk materials

Inventory

- Inventory all equipment and paraphernalia present in terms of:
  - Quantity
  - Size
  - Manufacturer's serial number
  - Condition
  - Location
- Inventory all chemicals present for
  - Type
  - Concentration
  - Quantity
- Describe unknown or unlabeled materials in terms of
  - Phase (Solid, Liquid or Gas)
  - Color
  - Volume/Mass
  - Appearance
- Describe the type, size, condition, and labeling of all containers
  - Plastic, glass, metal
  - Five-gallon, 2-ounce, etc.
  - Punctured, rusty, leaking, corroded, damaged, uncapped, bulging
  - Label, markings, etc.
- Identify the location of leaking or broken containers
  - Describe spilled solids or liquids, specifying odor, color, appearance, location, size of spill, etc.
- Identify leaking compressed-gas cylinders
- Identify unstable container storage
- Identify other concerns

Sample

- Take samples of appropriate items for evidence
- One-ounce sample size usually sufficient
- Photograph samples and original containers with identifying labels
- Maintain chain of custody

The DEA/USEPA Task Force recommends that certified safety-trained personnel from the law enforcement agency prepare a contamination report (see Appendix D), documenting this information, that will assist the state lead agency in carrying out its site evaluation process.

The findings of the contamination report are not intended to imply that all contaminated sites have been located or that the sites have been decontaminated. It is meant as an aid to the subsequent cleanup process, if necessary.

You Need to Know

Disposal Contractor Qualifications

- A USEPA and state, if applicable, identification number
- Controlled substances registration, if mandated by the state
- Availability of the appropriate vehicles, materials, personnel
- Reasonable response time
- Use of a RCRA permitted or interim status disposal facility that is in compliance
- The knowledge and experience necessary to manage and dispose of the hazardous materials properly
- The state environmental agency should assist in selecting a qualified disposal contractor

You Need to Know

FEDERAL HAZARDOUS WASTE GENERATOR AND TRANSPORTER REQUIREMENTS

The transportation of hazardous materials and hazardous wastes is regulated by the U.S. Department of Transportation (DOT), according to 49 CFR Parts 171,172,173,178, and 179. The U.S. Environmental Protection Agency (USEPA) also has regulations governing the generation and transportation of hazardous waste in 40 CFR Parts 261, 262, and 263. These federal regulations, as well as state regulations, apply when determining if wastes are hazardous, preparing waste for shipment, and transporting hazardous waste. States authorized by USEPA to administer the RCRA program may have requirements governing hazardous waste that are more stringent than the federal requirements. The following steps should be taken to ensure compliance with federal regulations. (A qualified contractor should be familiar with these requirements; therefore, it may be unnecessary for each law enforcement agency to learn them.)

Step 1. Determining if a waste is hazardous:

Determine if the waste meets the definition of hazardous waste according to 40 CFR 261. The waste may include "listed" wastes (F-List, K-List, U-List, or P-List) or may exhibit one of the "characteristics" of hazardous waste: ignitability, reactivity, corrosivity, or toxicity.

The DEA/USEPA Task Force recommends, for reasons of expediency in site cleanup, that all chemicals and associated glassware, equipment and contaminated materials in the laboratory be managed as if they are hazardous wastes.

Depending on the waste code classification, the waste may be subject to specific treatment standards prior to land disposal. The Land Disposal Restrictions (LDR) are established in 40 CFR Part 268. Also, check your state's regulations governing hazardous waste management. These regulations may be more stringent than federal regulations.

If all materials are managed as if they are hazardous waste, go to Step 2; if not, the following procedures must be followed:

Calculating Waste Quantities—Calculate quantities of acute and non-acute hazardous waste. Again, check your state regulations regarding hazardous waste. The quantities of hazardous waste will determine how and where the waste must be disposed. The federal requirements which may apply include the following:

Acute Hazardous Waste—The "P-List" in 40 CFR Part 261.33(e) identifies commercial chemical products classified as acute hazardous waste and subject to the requirements and quantities determinations of Part 261.5(e).

Conditionally Exempt Waste — If the total quantity of non-acute hazardous waste on-site is less than 100 kilograms (and the state also considers the small quantity generator waste conditionally exempt), then 40 CFR Part 261.5 requirements may apply. Conditionally exempt waste may be disposed of in a facility licensed by the state to manage municipal or industrial solid waste as described in 40 CFR 261.5(g)(3). (If all hazardous waste on-site is conditionally exempt, Steps 2-7 are not required.) (Reference 25).

Greater than 100 kilograms—If the total quantity of non-acute hazardous waste on site is greater than 100 kilograms (or 1 kilogram of acute hazardous waste), then the USEPA generator requirements in 40 CFR Part 262 apply, which includes Steps 2-7 below.

Step 2. Obtaining a USEPA ID Number

Call the USEPA Regional Office or state environmental agency for a "Provisional EPA Identification Number." The number you are given is site specific, for use only in connection with that site.

Step 3. Preparing Manifest and LDR Documentation

Manifest each shipment of hazardous waste for off-site shipment according to 40 CFR Part 262 Subpart B (USEPA), and 49 CFR Part 172 and 173 (DOT) (see Appendix H).

Land Disposal Restrictions (LDR) requirements stipulate that a notice and/or a certification must be prepared and included with each shipment, if a restricted waste is intended for land disposal.

Step 4. Packaging

All hazardous waste must be packaged in accordance with DOT regulations for off-site shipment (See 49 CFR Parts 173,178, and 179).

Step 5. Marking

Hazardous waste for off-site shipment must be marked in accordance with 40 CFR Section 262.32 (USEPA), and 49 CFR Part 172 Subpart D (DOT). In order to complete the manifest, you must identify the DOT "proper shipping name" for all hazardous materials and hazardous waste (See 49 CFR Part 172 Subpart B and the Hazardous Materials Table in 49 CFR 172.101); and identify the hazard class and UN/NA ID number (see 49 CFR Part 172 Subpart C as well as other requirements). (See Appendix H for a completed manifest.)

Step 6. Labeling

Each package of hazardous waste must be labeled according to DOT regulations (see 49 CFR Part 172 Subpart E).

Step 7. Placarding

Each shipment of hazardous waste must be placarded, or the initial transporter must be offered the appropriate placards, in accordance with DOT regulations for hazardous materials (see 49 CFR Part 172 Subpart F).

Note: To ensure the safety of DEA employees and to provide for a uniform, consistent policy, DEA contracts for the services of a qualified hazardous waste disposal company to safely and legally dispose of all non-evidentiary items as contaminated and, therefore treats them as hazardous wastes. DEA's policy requires that the hazardous waste disposal company incinerate, whenever possible, all hazardous waste to minimize potential liability. DEA recognizes the RCRA provisions (40 CFR Part 261.5) for conditionally exempt small quantity generators; however, based on safety and liability considerations, DEA elects to manage their hazardous waste under the more stringent generator requirements under RCRA (40 CFR Part 262), which minimizes liability.

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Disposal of Contaminated Materials

After all pertinent evidence samples are collected, the other chemicals, laboratory glassware and equipment should be considered contaminated and disposed of properly. Appropriate health and safety protocols, as discussed earlier, should be applied throughout the disposal phase.

Except for evidentiary samples, **no** glassware or equipment should be retained by law enforcement personnel. If appropriate, a pretrial destruction order for such items should be obtained with the search warrant (see Appendix E). After evidentiary samples are removed from the clandestine drug laboratory, the disposal contractor should be allowed access to the laboratory for dismantling, packaging, marking, labeling, transporting, storing, and disposing of all remaining laboratory and obviously contaminated materials.

The DEA/USEPA Task Force recommends that law enforcement agencies along with state environmental agencies select a qualified disposal contractor to remove all chemicals and associated glassware, equipment, and contaminated materials from the clandestine drug laboratory site (see Sidebar: Disposal Contractor Qualifications, page 10).

A law enforcement officer must be present to direct the entire processing operation. The contractor should prepare manifests and adhere to all applicable federal, state, and local laws and regulations (see Sidebar: Federal Hazardous Waste Generator and Transporter Requirements, page 11). Either the disposal contractor or the law enforcement officer must sign the appropriate manifest forms for the disposal of any hazardous waste. The disposal contractor or law enforcement officer may be given the authority to sign the manifest on behalf of the designated agency. Once the laboratory has been processed and the disposal contractor has left the site, the law enforcement officer prepares to exit the laboratory site.

Exiting the Site

Before exiting, the site must be secured and posted. The posting should consist of a "hazardous materials" warning sign which indicates that a clandestine laboratory was seized at the location. The date of seizure should also be included on the warning sign (see Appendix F). All law enforcement personnel and reusable equipment should be decontaminated before leaving the site.

Follow-up

A notice of the raid and seizure must be sent to the property owner and/or rental agent by certified mail, with return receipt requested. Copies of the notice letter, the contamination report, the drum packing lists, and a copy of the hazardous waste manifest are also sent to the state and local health and environmental protection agencies (see Appendix G). These notification letters should be sent within a specified time frame established by the agency. In order to expedite the notification process, oral notification procedures may be implemented prior to written notification to appropriate authorities.

The law enforcement agency's responsibilities regarding the clandestine drug laboratory site end here. Oversight of the cleanup of residual contamination should be the responsibility of the state lead agency.

You Need to Know

What Information Should Be Reported To The NRC?

The watchstanders at the **National Response Center** (1-800-424-8802) need concise and accurate information. Be prepared to report as much of the following as possible:

- Your name, address, and telephone number
- Name of the party or individual responsible for the incident
- Mailing address of the site and/or responsible party
- Telephone number of the responsible party
- Nature of incident (i.e., clandestine drug laboratory seizure)
- Date and time the incident occurred or was discovered
- Name(s) of material(s) spilled or released
- Cause of the release
- Total quantity discharged
- Whether material was released to air, ground, water, or subsurface
- Amount spilled into waterway (i.e., stream or sewer)
- Weather conditions
- Number and type of injuries or fatalities
- Whether evacuations have occurred
- Estimated dollar amount of property damage
- Description of cleanup action taken and future plans
- Other agencies that you have notified or plan to notify immediately
- Type of assistance you require, if any (e.g., air monitoring, emergency response).

CLEANUP OF RESIDUAL CONTAMINATION

This section provides guidance for cleaning up residual contamination remaining after the initial bulk disposal of hazardous wastes which occurs as part of the seizure of a clandestine drug laboratory. This includes the disposal or decontamination of contaminated furnishings, building materials, soil, etc.

The state lead agency should evaluate the site to determine if residual cleanup actions are necessary.

What Is Typically Involved in the Cleanup of a Clandestine Drug Laboratory Site?

Because clandestine drug laboratories present a unique and only recently recognized hazardous waste problem, guidance documents for cleanup strategies at these types of sites are not currently available. The guidelines offered here are based upon the approaches used by USEPA and state and local agencies in cleaning up hazardous waste sites. References are cited in appropriate sections and listed at the end of this document. Many can be readily obtained through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4600.

Few clandestine drug laboratory sites will pose a public health or environmental risk justifying a response action under Superfund. However, there may be residual contamination which necessitates some degree of cleanup. Therefore, USEPA and state and local guidance related to hazardous waste site evaluation may be helpful.

In rare cases, a raided site may pose an imminent and substantial hazard to the public health, welfare or environment, and require an emergency response. Such situations would likely be discovered during the laboratory seizure. Appropriate state agencies should be contacted as well as the National Response Center (NRC) as stated on page 12.

It should be noted that federal notification requirements do not supersede the requirements of appropriate state agencies. Some states may, however, require that other agencies are also notified.

Purpose of the Site Evaluation

The state lead agency should conduct a site evaluation. Its purpose is to:

- ensure that problem sites are properly identified;
- determine whether additional releases of hazardous substances from the site, which could pose a hazard or threat to the public health, may occur;
- determine the potential need for a residual cleanup or decontamination action; and
- develop the necessary site data base in the event that a serious long-term public health or environmental threat exists.

The DEA/USEPA Task Force recommends that the state lead agency (or appropriate state agency) responsible for cleaning up clandestine drug laboratories conduct a site evaluation, after notification by the law enforcement agency, to determine the potential need for a residual cleanup or decontamination action at the seized clandestine drug laboratory site. This process should commence within a specified time frame established by the state lead agency.

Evaluation consists of compiling the necessary data to compare with appropriate criteria to determine if a cleanup action is necessary.

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP or National Contingency Plan, 40 CFR 300) describes in more detail the site evaluation process. Also, USEPA has published several guidance documents on the site evaluation process and documentation requirements (References 10 and 13 - 16). These approaches can be scaled down to fit the requirements of a particular clandestine drug laboratory site.

What Are the Steps in Conducting a Site Evaluation?

The site evaluation strategy and necessary cleanup actions identified during the site evaluation phase should be conducted by trained technical personnel. Professionals who may be of assistance include engineers, chemists, industrial hygienists, and toxicologists.

The basic steps for conducting the site evaluation process may include the following:

- Existing data - Collect and review existing data from law enforcement agencies, the disposal contractor and any other appropriate information sources to characterize the operation, location and population near the site. This should include hazardous waste manifests and chemical inventory information compiled by the law enforcement agency (i.e., Contamination Report, see Appendix D).
- Interviews - Interview any individuals (neighbors, law enforcement, code enforcement officers, etc.) who may be able to provide useful information on site history.
- Perimeter inspection - Visually inspect the site from the property perimeter to confirm or update the data file with regard to site safety and potential hazards.
- On-site survey/sampling - Identify suspected contamination areas. Samples from potentially contaminated indoor and outdoor areas should be taken and analyzed for hazardous chemicals. Samples may include indoor air, dust deposits near or on vents and vent fans, swipes of likely spills or stained areas on floors, walls, ceilings, furniture and appliances. Soil, surface water or groundwater, and vegetation samples should be taken if it is suspected that outdoor dumping occurred. Proper sampling technique and sample identification procedures should be employed. The types of chemical analyses to be conducted should be based on a knowledge of the type of clandestine drug laboratory operation. If on-site sampling is undertaken, the state lead agency may need appropriate authorization to enter the property and take samples.
- Off-site survey/sampling - Identify surrounding land use, population, and water supplies to determine who might be affected should hazardous substances be released from the site. Identify sensitive human populations or wildlife habitats. Appropriate samples should be taken and analyzed if there is reason to believe there was a release of hazardous substances off-site. Possible sampling areas are well water sources, surface water, contaminated areas of soil or vegetation, and areas with high pedestrian traffic.
- Documentation - Document the results of the site evaluation. Provide a detailed overview of the site history, areas of contamination, nature and concentration of contaminants, toxicity and chemical characteristics of the materials, possible routes of chemical contamination, transport, and human exposure, and any additional recommendations.

What Are the Primary and Secondary Areas of Contamination?

Typical locations of clandestine drug laboratories include:

- Private home—urban, suburban, rural
- Apartment
- Motel/hotel
- Factory, warehouse, or commercial building
- Mobile home or trailer
- Houseboat or ship
- Campgrounds
- Other areas/vehicles

Primary and secondary areas of potential contamination at these clandestine laboratory sites can be predicted based on actual experience. Knowledge of these typical areas of contamination will be useful in designing sampling protocols and cleanup strategies. Primary areas of contamination are as follows:

- Processing ("cooking") areas near water or sewers
  Causes: spills, boilovers, explosions, distillation, extraction, and purification procedures
  Specific items affected: floors, walls, ceilings, glassware, containers, working surfaces, furniture, drains, and vents
- Disposal ("dump") areas
  Indoors: sinks, commodes, bathtubs, floor drains, vent fans, chimney flues, vents
  Outdoors: soil, surface water (pond, stream, bay, harbors, navigable waterways), groundwater (surface or artesian well), sewer or storm-water system, septic system, cesspools, caves, mines
- Storage areas
  Causes: spills, leaks

Secondary areas of contamination may include:

- Locations where contamination has migrated (e.g., hallway where materials have been carried on shoes)
- Atmospheric emissions: venting, air releases from processing equipment
- Surfaces on which vented materials could be deposited (e.g., curtains, blinds, light fixtures, etc.)
- Common ventilation systems in hotels/motels

The following conditions affecting the nature or extent of contamination should also be considered:

- Fire – Products of incomplete combustion or contaminated ash materials may have been deposited on various surfaces or structures.
- Weather – Heat may increase volatilization, resulting in the release of vapors or gases. Wind may disperse dust or vapors which may increase the probability of human exposure.
- Humidity – This will influence degradation and deposition of various hazardous substances.
- Ground temperature and depth to the water table– This may affect the volatilization rate of solvents that have seeped into groundwater or soil, and therefore influence indoor air concentrations in basements or other rooms in a building.

You Need to Remember

The most important things you should remember about the investigation and seizure of a clandestine drug laboratory are that:

1) Each clandestine drug laboratory is unique and presents a variety of hazards.
2) Law enforcement personnel involved with clandestine drug laboratory programs need special medical certification and regular medical monitoring.
3) Law enforcement personnel need specialized training regarding the investigation and seizure of clandestine drug laboratories.
4) The clandestine drug laboratory raiding team needs specialized equipment and training in its use.
5) Only representative samples are needed for evidence. All other materials, equipment, and glassware should be disposed of for environmental and health and safety reasons.
6) Only qualified hazardous waste disposal contractors should be used to dispose of waste.
7) The proper state health, safety, and environmental agency should be notified about the laboratory seizure.

What Are the Possible Courses of Action?

In considering the need for residual cleanup or decontamination actions at clandestine laboratory sites, it is likely that primary emphasis will be placed on the suitability of the building structure for rehabitation or use. When there is sufficient concern that a release or potential release of hazardous substances threatens the public health, welfare, or the environment, the designated state lead agency should increase the scope of the evaluation as necessary.

Justification for a more extensive site evaluation and sampling protocol would include instances in which significant contamination of well water or groundwater from indiscriminant dumping of hazardous substances has occurred. Furthermore, both acute and chronic health risks to surrounding inhabitants, particularly sensitive populations such as children or the elderly, may require assessment. Guidance for conducting these more detailed assessments are found in USEPA documents (References 17-20).

In addition to deciding on the type of cleanup response, the lead agency should develop a Safety and Emergency Response Plan which should be followed while performing the cleanup. These plans should be developed on a site-specific basis although they can be based on a generic model. OSHA requirements are outlined in 29 CFR 1910.120 and standard operating procedures, guidelines and factors to consider are found in NIOSH and USEPA documents (References 21-23).

One of the following types of actions will generally be appropriate:

- No further action required
- Residual cleanup/decontamination

No Further Action Required

This decision is made when it is determined that (a) the concentration of hazardous substances present in the samples taken from on-site and/or off-site are below federal or state action levels, or (b) there is reasonable evidence to suggest that contamination on-site or off-site does not pose either a short-term or long-term threat to the public health, welfare or to the environment.

Residual Cleanup/Decontamination Actions

Residual chemical contamination in the building structure or on the grounds around a clandestine drug laboratory site may create a long-term health hazard and/or an odor problem. Additional cleanup activities may be necessary to make the building suitable for rehabitation or use and to reduce the health risk and aesthetic nuisance to local residents in the surrounding area.

The disposal of all wastes generated during the cleanup/decontamination activities should be managed in compliance with USEPA and USDOT regulations outlined on page 10. Compliance with these regulations is the responsibility of the party managing the cleanup/decontamination activity.

Several approaches can be taken to reduce or eliminate residual chemical contamination. With any method, proper safety measures must be taken to protect workers from exposure to dusts, vapors, gases, or liquids.

- Removal — The best approach is to remove, if possible, all furnishings, draperies, carpeting, paneling, wood trim, wallpaper, wallboard (anything easily dismantled or disassembled) that have been contaminated. These materials should be disposed of through a qualified disposal contractor either by incineration or landfilling in properly permitted facilities. The procedures for proper waste management outlined on page 10 should be followed. If removal methods are impractical, decontamination methods may be useful.
- Decontamination — Decontamination is the process of physically removing the contaminant from the contaminated object/material, limiting access to the contaminant, or changing the chemical nature of the contaminant to render it non-hazardous.
- Venting — Where solvents are slowly vaporizing indoors, proper ventilation and air monitoring/surveillance techniques discussed in the "assessment" phase will, in many cases, effectively reduce air concentrations of vapors and decrease odor. Removal or washing the source may minimize the need for venting. The decision to vent should be made with concern for surrounding inhabitants and safety.
- Neutralization — Where it is known that acids or bases are the source of contamination (look for signs of corrosion), neutralization with sodium bicarbonate solution for acids or weakly acidic wash solutions (e.g., vinegar, acetic acid) for bases, respectively, may be useful. Use of strong alkaline or acidic wash solutions on contaminated surfaces or objects may result in exothermic reactions and the release of toxic fumes.
- Detergent-Water Washing — Nonporous surfaces, such as floors and tiles, may be decontaminated with detergent (or surfactant) and water solutions. Steam cleaning or high pressure washers may be useful for larger areas of contamination.
- Encapsulating or Sealing — Where no other alternatives are available, sealing the contaminated surface with polyurethane, or with materials like those used to contain asbestos may be considered.

In the event of outdoor contamination (i.e., soils, surface or groundwater), several actions may be considered depending on the type and extent of contamination.

- Site control (i.e., restricted access using fencing, etc.)
- Removal of containers of hazardous materials that were not discovered during entry, assessment or processing
- Drainage control
- Removal or treatment of contaminated soils and water
- Provision of alternative water supplies for those exposed to contaminated wellwater

The presence of extensive outdoor contamination may present a potential acute or chronic health hazard. Cleanup strategies should be coordinated with state or local health agency officials to ensure that the public health and welfare are being addressed.

SUMMARY OF JOINT DEA/USEPA TASK FORCE RECOMMENDATIONS

The Task Force recommends that:

1. Each state appoint a lead agency to assume responsibility for developing a comprehensive clandestine drug laboratory program which addresses law enforcement and environmental, health and safety concerns. The designated lead agency may wish to transfer authority to local agencies which have the capability to respond to these situations.

2. Medical screening and specialized training programs (see Appendix B) be considered an essential part of a clandestine drug laboratory program.

3. State and local law enforcement agencies require that their personnel wear protective clothing, where appropriate, such as ballistic vests and fire retardant suits, when seizing clandestine drug laboratories.

4. State and local authorities recognize that each clandestine drug laboratory is different, and, depending on the circumstances, different actions should be taken in seizing and securing them.

5. Certified safety-trained personnel from the law enforcement agency prepare a contamination report (see Appendix D), documenting this information, that will assist the lead state agency in carrying out its site evaluation process.

6. Law enforcement agencies, along with state environmental agencies, select a qualified disposal contractor to remove all chemicals and associated glassware, equipment, and contaminated materials from the clandestine drug laboratory site.

7. The lead state agency (or appropriate state agency) responsible for cleaning up clandestine drug laboratories conduct a site evaluation, after notification by the law enforcement agency, to determine the potential need for a residual cleanup or decontamination action at the seized clandestine drug laboratory site. This process should commence within a specified time frame established by the state lead agency.

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25 *Understanding The Small Quantity Generator Hazardous Waste Rules: A Handbook for Small Business*, EPA/530-SW-86-019, Office of Solid Waste and Emergency Response, U.S. EPA, Washington, DC.*

* These publications may be obtained from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4600.

** Contact the Office of Forensic Sciences, Attn: AFSH, Drug Enforcement Administration, Washington, DC 20537.

LIST OF ACRONYMS

CFR..... Code of Federal Regulations
CERCLA.... Comprehensive Environmental Response, Compensation and Liability Act (Superfund)
DEA. ..... United States Drug Enforcement Administration
HSWA ..... Hazardous and Solid Waste Amendments (amends the Resource Conservation and Recovery Act)
LEL..... Lower explosive limit
MOU ..... Memorandum of Understanding
NCP..... National Oil and Hazardous Substances Pollution Contingency Plan; National Contingency Plan
NIOSH..... National Institute of Occupational Safety and Health
NFPA ..... National Fire Protection Association
NRC ..... National Response Center
OSHA..... Occupational Safety and Health Administration
PEL..... Permissible exposure limit
PPM ..... Parts per million
RCRA..... Resource Conservation and Recovery Act
SARA ..... Superfund Amendments and Reauthorization Act
SCBA ..... Self-contained breathing apparatus
TLV ..... Threshold limit value
USCG..... United States Coast Guard
USDOT ..... United States Department of Transportation
USEPA ..... United States Environmental Protection Agency

GLOSSARY

Acute toxicity. Adverse health effects resulting from a brief exposure to a chemical substance or mixture. The effects may be reversible or irreversible.

Anti-Drug Abuse Act. Public Law (PL) 100-690. Section 2405 of this act established the Joint Federal Task Force to address the issue of hazardous waste contamination at clandestine drug laboratories.

Assessment. Determination of immediate safety or health risks and reduction, if possible, of any imminent hazards to law enforcement personnel in later stages of the seizure operation.

By-product. Chemical substance remaining after synthesis of illicit drugs that is formed as part of the chemical reaction.

Bulk chemicals. Drums, containers, or packages of precursors, reagents, solvents, by-products or illicit drugs that should be taken for evidence or removed to a permitted waste disposal facility.

Chronic toxicity. Adverse health effects resulting from continuous or intermittent exposure to low levels or doses of a chemical substance or mixture over a long period of time (weeks to years).

Clandestine drug laboratory. Any operation that is engaged in the manufacture of illegal drugs as defined in PL 91-513.

Clandestine laboratory safety program. A program developed by the U.S. Drug Enforcement Administration to protect the safety of its investigators from the chemical hazards posed by clandestine drug laboratories.

Cleanup. As defined in these guidelines, the process(es) of removing materials contaminated with hazardous substances, or decontaminating their surfaces.

Combustible. A term used by the National Fire Protection Association (NFPA), Department of Transportation (DOT), and the Occupational Safety and Health Administration (OSHA) to denote substances that will burn, usually with a flashpoint greater than 100 degrees F (38 degrees Celsius).

Condemnation. The legal act of declaring a property unfit for use by the public.

Contamination report. A report completed by the law enforcement agency during the planning, assessment and processing phases of the seizure operation that provides a summary of the types and amounts of chemicals seized, and possible areas of the property or surrounding area that might be contaminated.

Controlled Substances Act. Public Law 91-513. Provides the legal basis for drug law enforcement in the United States and establishes regulations and activities governing controlled substances.

Controlled substance analog. A chemical derivative of a known illicit drug; "designer" drug.

Corrosive. Under RCRA regulations (40 CFR 261.22), a substance is corrosive if it corrodes metal (e.g., steel) under certain conditions, or if it exhibits strongly acidic or alkaline pH that would enable it to harm human tissue or aquatic life.

Deactivation. See "Dismantling."

Decontamination. The process of removing chemical contamination from surfaces by washing or by chemical treatment.

Designer drugs. See "Controlled substance analog."

Dismantling. Deactivation of all chemical reactions and laboratory activities after the assessment phase.

Disposal contractor. An individual or company that is appropriately qualified (or registered with the state, if necessary) to dispose of hazardous wastes in approved facilities.

Draeger tube. A tube used in conjunction with a Draeger pump to collect, and quantitate by color reactions, gas vapors in the atmosphere.

Dust. Suspension in air of fine particles or solids formed from grinding, milling or other disintegration processes of a mechanical nature.

Emergency response. The process, initiated by calling the National Response Center (NRC), of evaluating, and if necessary, taking actions to reduce or prevent the release of a hazardous substance into the environment that may pose an imminent and substantial threat to the public health or environment.

Entry. Apprehension and removal of clandestine drug laboratory operators by law enforcement agents.

Evidentiary samples. Samples of drugs and other items collected by a certified chemist at a clandestine laboratory site to be used as evidence against the perpetrator(s). Samples are taken prior to bulk disposal of the chemicals and other materials.

Explosive. A material producing a sudden, almost instantaneous release of pressure, gas, and heat when subjected to abrupt shock, pressure or high temperature.

Exit. Final inspection of the laboratory after processing and posting of the premises.

Explosimeter. An instrument that measures the concentration of a flammable gas or vapor as a percentage of the lower explosive limit (LEL).

Flammable. Describes any solid, liquid, vapor or gas that will ignite easily and burn. Flammable liquids are defined by DOT and NFPA as those having a flashpoint of less than 100°F (38°C).

Flashpoint. The lowest temperature at which a substance gives off flammable vapor to form an ignitable mixture with air near its surface or within a vessel.

Follow-up. Notification of property owners and state and local health agencies by the law enforcement personnel in charge that the clandestine laboratory has been seized and posted.

Fume. A type of aerosol in which solid particles are formed by condensation of particles from heated metals or other solids.

Gas. A thin, shapeless fluid, like air, capable of indefinite expansion, but convertible by compression and cold into a liquid, and eventually a solid. Gases exist naturally at 20 degrees Celsius.

Generator. Any person, by site, whose act or process produces hazardous waste identified or listed in Part 261 of RCRA regulations or whose act first causes a hazardous waste to become subject to regulation.

Hazardous substance. Chemical substances, elements, mixtures, or solutions variously defined or listed under a number of federal and state regulations. Some of the pertinent federal regulations are: CERCLA (Section 101, 102); RCRA (Sections 3001, 3002); TSCA (Section 7); Federal Water Pollution Control Act (Sections 307 [a], 311[b] [2] [A]); and the Clean Water Act (Section 112).

Hazardous waste. A hazardous waste as defined in 40 CFR Part 261 of RCRA regulations or pertinent state regulations.

Ignitable. Defined under RCRA (40 CFR 261.21) as a solid waste capable during routine handling of causing a fire or worsening a fire once established. It includes liquids, nonliquids, compressed gases (as defined under DOT regulations, 49 CFR 173.300) or an oxidizer (as defined under DOT regulations, 49 CFR 173.151).

Irritant. A chemical substance which produces reversible redness, swelling or soreness when in contact with the skin or mucous membranes.

Lead agency. A state-appointed agency (state or local) responsible for supervising, coordinating and facilitating the cleanup of clandestine drug laboratories, within the given state, in cooperation with law enforcement personnel.

Level A protection. The level of protective equipment in situations where the material is considered acutely vapor toxic to the skin and hazards are unknown.

Level B protection. The level of protective equipment in situations where the environment is not considered acutely vapor toxic to the skin but may cause respiratory effects.

Level C protection. The level of protective equipment required to prevent respiratory exposure but not to exclude possible skin contact.

Level D protection. The level of protective equipment required when the atmosphere contains no known hazard, when splashes, immersion, inhalation, or contact with hazardous levels of any chemical is precluded.

Lower explosive limit (LEL). Refers to the lowest concentration of gas or vapor (% volume in air) that will burn or explode at ambient temperatures if an ignition source is present.

Manifest. The Uniform Hazardous Waste Manifest, USEPA Forms 8700-22 and 22A (40 CFR Part 262).

Notification letter. Letters from law enforcement or health agencies to appropriate parties regarding the status of a clandestine laboratory site relative to legal and health/safety issues.

On-scene coordinator. Personnel of the USEPA and USCG who respond to emergencies involving the release of hazardous substances that may endanger the public health or environment.

Organic vapor analyzer. A device that detects the presence and concentrations of organic vapors in the air that may pose an acute health or safety hazard.

Personal protective equipment. Various types of clothing (e.g., suits, gloves, hats, boots) or apparatus (i.e., face masks, respirators, radios, etc.) designed to prevent inhalation, skin contact or ingestion of hazardous chemicals. Various "levels" of protection have been developed to protect individuals who may be exposed to different degrees of adverse health risks.

Planning. The preliminary stage of a clandestine drug laboratory seizure which includes surveillance and assessments of the hazards present in order to develop the safest strategy for entry of the laboratory.

Precursor. A chemical substance required for the synthesis of an illicit drug and which is ultimately incorporated into the drug structure. Some precursors are hazardous in their own right, and are regulated through federal and state substance abuse laws.

Processing. The stage of a seizure operation in which evidence is gathered and bulk chemicals are disposed of through a licensed disposal contractor.

Public health evaluation. A process used by USEPA, state or local public health agencies to evaluate the risk of adverse health effects (i.e., carcinogenic; noncarcinogenic) to humans by hazardous substances.

Reactive. Under RCRA (40 CFR 261.23), reactive substances are generally those that are normally unstable and have a tendency to react violently with water or explode during handling. Explosives, as defined under 49 CFR 173.51, 173.53, or 173.88 are also included in this definition.

Reagent. A chemical required for the synthesis of an illicit drug substance but which is not incorporated into the final chemical product.

Removal. The process of physically disposing of chemical contaminants or chemically-contaminated objects to a specially-permitted disposal facility, as required under RCRA.

Residual contamination. Small amounts of chemical contamination that remain inside the laboratory or on the grounds surrounding the site that may pose a public health or environmental risk.

Seizure. The act of taking control of a clandestine drug laboratory which involves planning, initial entry, assessment, processing, exit, and follow-up.

Solvent. An organic liquid used in various chemical reactions or extraction procedures to dissolve or separate precursors, reagents or drug substances, but which is not incorporated into the final product.

Superfund removal site. A site where the USEPA has determined that releases or potential releases of hazardous substances pose a threat to the public health and/or environment and which has been designated eligible for federally-funded cleanup through CERCLA.

Toxicity. The quality or degree of being poisonous or harmful to plant, animal, or human life as the result of exposure (ingestion, inhalation, or skin contact) to a hazardous chemical, mixture, or illicit drug. The characteristic of EP toxicity is defined in 40 CFR 261.24.

Vapor. The gaseous state of a material suspended in air that would otherwise be a liquid or solid at 20 degrees Celsius and normal atmospheric pressure. Examples are benzene and iodine.

APPENDIX A

Chemical Properties and Health Hazards Associated with Chemicals Commonly Found at Clandestine Drug Laboratory Sites. Tables were adapted with permission of the Oregon State Health Division (see Reference 24).

TABLE A-1 CYANIDES

Substance	Form	Exposure	EPA Hazardous Waste Numbers*	DOT UN/NA ID Numbers
Sodium Cyanide	Solid	Skin, Eyes, Ingestion	P106	UN 1689
Potassium Cyanide	Solid	Skin, Eyes, Ingestion	P098	UN 1680
Benzyl Cyanide	Liquid	Skin, Eyes, Inhalation, Ingestion		
Hydrogen Cyanide	Gas, Liquid	Inhalation	P063	

Health Effects:

Highly toxic substances. If solid cyanide salts come in contact with acid, hydrogen cyanide gas will be released. Inhalation of hydrogen cyanide may result in rapid progression of symptoms to respiratory failure, coma and death. Ingestion of the salts may also lead to these symptoms, but hydrogen cyanide gas poses the greater exposure risk.

TABLE A-2 IRRITANTS AND CORROSIVES

Substance	Form	Exposure	EPA Hazardous Waste Numbers*	DOT UN/NA ID Numbers
Acetic Acid[a]	Liquid	Skin, Eyes, Inhalation		UN 2790
Acetic Anhydride[a]	Liquid	Skin, Eyes, Inhalation		UN 1715
Acetyl Chloride	Liquid	Skin, Eyes, Inhalation	U006	UN 1717
Ammonia (anhydrous)	Gas	Skin, Eyes, Inhalation		UN 1005
Ammonium Hydroxide	Liquid	Skin, Eyes, Inhalation		NA 2672
Benzyl Chloride[a]	Liquid	Skin, Eyes, Inhalation	P026	UN 1738
Dimethylsulfate	Liquid	Skin, Eyes, Inhalation	U103	UN 1595
Formaldehyde	Gas, Liquid	Skin, Eyes, Inhalation	U122	UN 1198
Formic Acid	Liquid	Skin, Eyes, Inhalation	U123	UN 1779
Hydrogen Chloride/ Hydrochloric Acid	Gas, Liquid	Skin, Eyes, Inhalation		UN 1789
Hydrobromic Acid	Liquid	Skin, Eyes, Inhalation		UN 1788
Hydriodic Acid	Liquid	Skin, Eyes, Inhalation		UN 1787
Hydroxylamine[a,b]	Liquid, Solid	Skin, Eyes, Inhalation		
Methylamine[a]	Gas, Liquid, Solid	Skin, Eyes, Inhalation		
Methylene Chloride[a] (dichloromethane, methylene dichloride)	Liquid	Skin, Eyes, Inhalation	U080	UN 1593
Methyl Methacrylate	Liquid	Skin, Eyes, Inhalation	U162	NA 1247
Nitroethane[a,b]	Liquid	Skin, Eyes, Inhalation		UN 2842
Oxalylchloride[b]	Liquid	Skin, Eyes, Inhalation		
Perchloric Acid[e]	Liquid	Skin, Eyes, Inhalation		UN 1873
Phenylmagnesium Bromide[a,b]	Liquid	Skin, Eyes, Inhalation		
Phosphine[a]	Gas	Eyes, Inhalation	P096	UN 2199
Phosphorus Oxychloride	Solid	Skin, Eyes, Inhalation		UN 1810
Phosphorus Pentoxide	Solid	Skin, Eyes		
Sodium Amide (Sodamide)[b]	Solid	Skin, Eyes, Inhalation		UN 1425
Sodium Metal [a,b]	Solid	Skin, Eyes		UN 1428
Sodium Hydroxide	Liquid, Solid	Skin, Eyes		UN 1823, 1824
Sulfur Trioxide	Liquid, Solid	Skin, Eyes, Inhalation		UN 1829
Sulfuric Acid[f]	Liquid	Skin, Eyes, Inhalation		UN 1830
Tetrahydrofuran[a,b]	Liquid	Skin, Eyes, Inhalation	U213	UN 2056
Thionyl Chloride	Liquid	Skin, Eyes, Inhalation		UN 1836

* Refer to 40 CFR 261.33 for a detailed listing.

TABLE A-2 IRRITANTS AND CORROSIVES (CONT.)

Health Effects: Vapors of volatile corrosives may cause eye irritation, lacrimation, conjunctivitis and corneal injury. Inhalation may cause irritation of mucous membranes of the nose and throat, and lung irritation resulting in cough, chest pain, and shortness of breath. Pulmonary edema, coughing up of blood, and chronic lung disease may occur in severe cases. High concentrations of vapor may cause skin irritation. Additional symptoms of vapor inhalation may include headache, nausea, dizziness and anxiety. Phosphine may detonate, and has the odor of decaying fish. Direct contact with corrosives may result in severe eye or skin burns. Methyl methacrylate skin exposure may result in contact dermatitis and sensitization. Formaldehyde is a suspected human carcinogen. Formic acid ingestion or inhalation may result in kidney or liver damage. Sodium metal reacts violently with water. Tetrahydrofuran and Perchloric Acid can form explosive crystals.

[a] Flammable
[b] Explosive
[c] Flash Point < 141° F
[d] Uninhibited
[e] >50% but ≤ 72% strength
[f] Unspent

TABLE A-3 SOLVENTS

Substance	Form	Exposure	EPA Hazardous Waste Numbers*	DOT UN/NA ID Numbers
Acetone[a]	Liquid	Skin, Eyes, Inhalation	U002	UN 1090
Acetonitrile[a]	Liquid	Skin, Eyes, Inhalation	U003	NA 1648
Aniline	Liquid	Skin, Eyes, Inhalation	U012	UN 1547
Benzene[a]	Liquid	Skin, Eyes, Inhalation	U019	UN 1114
Benzylchloride[a]	Liquid	Skin, Eyes, Inhalation		UN 1738
Carbon Tetrachloride	Liquid	Skin, Eyes, Inhalation	U211	UN 1846
Chloroform	Liquid	Skin, Eyes, Inhalation	U044	UN 1888
Cyclohexanone[a,d]	Liquid	Skin, Eyes, Inhalation	U057	UN 2896
Dioxane[a]	Liquid	Skin, Eyes, Inhalation	U108	UN 1165
Ethanol[a]	Liquid	Skin, Eyes, Inhalation		UN 1170
Ethyl Acetate[a]	Liquid	Skin, Eyes, Inhalation	U112	UN 1173
Ethyl Ether[b,c]	Liquid	Skin, Eyes, Inhalation	U117	UN 1155
Freon 11 (trichloromonofluoromethane)	Liquid	Skin, Eyes, Inhalation	U121	
Hexane[a]	Liquid	Skin, Eyes, Inhalation		UN 1208
Isopropanol[a]	Liquid	Skin, Eyes, Inhalation		UN 1219
Methanol[a]	Liquid	Skin, Eyes, Inhalation	U154	UN 1230
Methylene Chloride (dichloromethane, methylene dichloride)	Liquid	Skin, Eyes, Inhalation	U080	UN 1593
Petroleum Ether[a]	Liquid	Skin, Eyes, Inhalation		UN 1271
Pyridine[a]	Liquid	Skin, Eyes, Inhalation	U196	UN 1282
Toluene[a]	Liquid	Skin, Eyes, Inhalation	U220	UN 1294
o-Toluidine[a,b]	Liquid	Skin, Eyes, Inhalation	U328	

* Refer to 40 CFR 261.33 for a detailed listing.

Health Effects:

Inhalation of vapors at low concentrations may result in mild eye, nose and throat irritation. Symptoms of intoxication (drowsiness and incoordination) or loss of consciousness may occur at high concentrations. Liver and kidney impairment may also occur at high doses, or with prolonged exposure. Benzene is a known human carcinogen. Chloroform, carbon tetrachloride, dioxane, o-toluidine, and methylene chloride are probable human carcinogens. Spilling of freon on the skin may result in freezing injury. Ingestion of small amounts of methanol may lead to permanent damage to vision. Aniline can be readily absorbed through the skin and may cause mental confusion and decreased blood hemoglobin by all exposure routes. o-Toluidine is highly toxic when absorbed through the skin, inhaled as a vapor, or ingested, causing possible kidney injury.

[a] Flammable
[b] Explosive
[c] Ethers may form explosive peroxides
[d] ≤ 50% peroxide

TABLE A-4 METALS/SALTS

Substance	Form	Exposure	EPA Hazardous Waste Numbers*	DOT UN/NA ID Numbers
Aluminum Chloride	Solid	Skin, Eyes		UN 1726
Magnesium[a,d]	Solid	Skin, Eyes		UN 1869
Palladium	Solid	Skin, Eyes		
Red Phosphorus[b]	Solid	Skin, Eyes		
Iodine	Solid	Skin, Eyes		
Mercuric Chloride	Solid	Skin, Eyes		UN 1624
Lead Acetate	Solid	Skin, Eyes		UN 1616
Lithium Aluminum Hydride[a,b]	Solid	Skin, Eyes		UN 1410
Lithium Hydroxide	Solid	Skin, Eyes		
Potassium Hydroxide	Solid	Skin, Eyes		UN 1813
Raney Nickel[a,b]	Solid	Skin, Eyes		
Sodium Hydroxide	Solid	Skin, Eyes		UN 1823
Sodium Metal[a,b]	Solid in kerosene	Skin, Eyes		UN 1428
Potassium Metal[a,b]	Solid in kerosene	Skin, Eyes		UN 2257
Thorium Salts[c]	Solid	Skin, Eyes		UN 2976

* Refer to 40 CFR 261.33 for a detailed listing. Currently, none of these possess EPA Waste Numbers.

Health Effects:

Most metals and salts are stable solids with minimal potential for exposure unless ingested or the metal is present in the air as dust or fumes, if heated. Sodium and potassium metal, and sodium and lithium hydroxides are extremely corrosive in the presence of moisture. Lithium aluminum hydride, and sodium, magnesium and potassium metals are extremely reactive with air and water and can ignite or explode. (Hydrogen gas may be liberated which is explosive.) Thorium is an alpha-emitting radioactive material. Flu-like symptoms and possible lung damage may result from breathing metal fumes. Acute overexposure to lead or mercury salts may lead to nausea and vomiting, and long-term exposure can affect the central nervous system. Hematologic and neurologic complications and kidney damage may occur with chronic exposure to mercury salts. Red phosphorus, if contaminated with white phosphorus, may explode on contact, or with friction or heat, but is relatively nontoxic by ingestion.

[a] Flammable
[b] Explosive
[c] Radioactive
[d] Magnesium metal (powder, pellets, turnings on ribbon)

TABLE A-5 OTHER HAZARDOUS PRECURSORS, SOLVENTS, REAGENTS, DRUG PRODUCTS AND BY-PRODUCTS FOUND IN CLANDESTINE DRUG LABORATORIES

Substance	Form	Exposure	Health Hazard
Cyclohexanone	Liquid	Skin	Irritant
Fentanyl	Solid	Inhalation, Skin, Eyes	Narcotic drug product causing respiratory failure at extremely low doses (i.e., equivalent to a few grains of dust)
Hydrogen	Gas	Inhalation	Flammable, Explosive
Lysergic Acid Diethylamide	Powder	Ingestion, Inhalation	Hallucination at extremely low doses
MPTP, MPPP[a]	Solids	Inhalation, Skin	By-product or intermediates of alpha-prodine laboratories. (*Extremely low doses may cause irreversible Parkinson's disease.*)
Methylfentanyl	Solid	Inhalation, Skin, Eyes	See "Fentanyl"
Phenylacetic Acid	Solid	Skin, Eyes	Irritant
Phenyl-2-Propanone (phenylacetone)	Liquid	Skin, Inhalation	Irritant; few toxicity data available
Piperidine	Liquid	Skin, Inhalation	Irritant; few toxicity data available

[a] MPTP (1-methyl-4-phenyl-1, 2, 3, 6-tetrahydropyridine); MPPP (1-methyl-4-phenyl-4-propionoxypiperidine)

APPENDIX B

DEA's Clandestine Laboratory Safety Certification Program consists of the following schools:

1. Clandestine Laboratory Investigative School
2. Clandestine Laboratory Safety School

Each of these schools is approximately one week in length; the Investigative School is a prerequisite for attending the Safety School.

CLANDESTINE LABORATORY INVESTIGATIVE SCHOOL CURRICULUM (25-36 Hours)

Course Title	Hours
Introduction to & History of Clandestine Laboratories	2
Initiation and Development of Clandestine Laboratories	6-8
Role of the Chemist	1-2
Role of the Prosecutor	1-2
Search Warrants	2-4
Raid Planning	1-2
Laboratory Syntheses	6-8
Financial Aspects	1-2
Bombs and Booby Traps	3-4
Drug Analogs	2

CLANDESTINE LABORATORY SAFETY SCHOOL CURRICULUM (31-36 Hours)

Course Title	Hours
Basic Toxicology	2
Chemical Hazards	1.5
Physical Hazards	1.5
Air Monitoring	2
Hazard Assessment	2
Work Practices/Personal Hygiene	0.5
Protective Clothing & Equipment	1.5
Respiratory Protection	2
Chemical Handling	1.5
Site Control	1.5
Practical Exercise - Air Monitoring	2
SCBA Demonstration	1
First Aid at Clandestine Laboratory Sites	3
EPA Regulations	1-2
Field Exercises	8-12
- Air Monitoring	
- Respiratory Fit Test	
- Fire Suppression	
- Smoke Room	
- Mock Clandestine Laboratory	
- Decontamination	

For your information, DEA has also developed the Advanced Clandestine Laboratory Safety School in response to the OSHA requirement for 8 hours of annual refresher training which an individual needs to maintain in order to enter hazardous laboratory sites.

ADVANCED CLANDESTINE LABORATORY SAFETY SCHOOL CURRICULUM (28-32 Hours)

Course Title	Hours
Review of Clandestine Laboratory Safety School	3
SCBA Review	3-4
Air Monitoring Review	3-4
SCBA Instrument Lab	4
Gas Tech 1314/Draeger Instrument Laboratory	5-6
Advanced Safety	5-6
- Toxicology	
- Levels of Protection	
- Decontamination	
- Hazard Communication	
Hazardous Waste Manifesting/Bill of Lading	2
Waste Management	1
Hazardous Waste Containers	1
Clandestine Laboratory Raid Vehicles	1

The Clandestine Laboratory Program Managers may be contacted at the following address:

DEA/FBI Academy
Bldg 12 TRDF
Quantico, VA 22135

APPENDIX C

Letter to Physician for Medical Certification of State and Local Officers and Clandestine Laboratory Safety Certification School Suggested Guidelines for Medical Certification

Dear Doctor:

The purpose of this medical examination is to obtain a medical clearance for work during seizure of illegal drug laboratories in compliance with the worker protection rule for hazardous waste operations and emergency response (29 CFR 1910.120). In addition to traditional law enforcement activities, the examinee will be required to use personal protective equipment for protection from chemical exposures.

The personal protective equipment, workplace and environmental factors of concern are described below. Suggested guidelines for the medical evaluation are attached.

Protective Equipment: Will use a twin cartridge, full face mask, air purifying MSA Ultra twin respirator, and an MSA Airpac (pressure demand, open circuit) self contained breathing apparatus. Will use neoprene boots, chemically resistant gloves, and a chemically resistant (vapor barrier) suit of Tyvek or Saranex.

Type of Work: Includes pursuit, confrontation, control and arrest of suspects which may involve strenuous physical activity. Includes light to moderate exertion while wearing personal protective equipment with increased work of breathing, cardiovascular stress and heat load. Includes responsibility for the safety of others and responsiveness in rescue and emergency situations. Such work may be done daily or once a month or less, up to 8 hours at a time.

Work Setting: Work in uncontrolled, poorly ventilated, makeshift laboratories with unidentified chemical processes in progress. Potential for fire, explosion and chemical spills likely. Potential for exposure to organic solvents, inorganic acids and alkalis, cyanides, other drug precursors, unknown chemicals, reactants, and by-products of chemical reactions, controlled substances in solution or powdered form. Includes work indoors and outdoors in extremes of seasonal environmental temperatures and humidity. Prior acclimation to hot environments is unlikely.

If there are any abnormalities such as cardiovascular or respiratory conditions, musculoskeletal problems, lapses of consciousness, sensitivity to heat injury, or other medical conditions that would present an unusual risk of harm to the individual or to others in performing these duties, please notify me as soon as possible.

If you find the individual cleared for performing the duties described above, please sign and date the certification below and return it to me. Thank you for your help.

Sincerely Yours,

Chief Medical Officer

Medical Certification

I examined _____ on _____ and
(Name) (Date)
find the individual to be medically able to perform the duties described above without unusual medical risk of harm to the individual or others.

Physician's Signature _____ Date _____

Physician's Name _____

Clandestine Laboratory Safety Certification School
Suggested Guidelines for Medical Certification

The following elements are suggested for the initial medical evaluation of individuals who are to be considered for a medical clearance to work in clandestine drug laboratories. Additional elements may be added based on local considerations.

I. General Medical History:

History of current complaints and illnesses, if any.

Review of systems: special emphasis on the skin, respiratory, cardiovascular and neurologic systems.

Questions about use of respirators and protective gear, including problems with their use and history of claustrophobic reactions.

History of heat injury.

Medications, smoking history, alcohol use.

Reproductive history.

Exercise Capacity.

Occupational and Exposure History.

II. General Medical Examination:

Vital signs. Examination with emphasis on the skin, respiratory, cardiovascular, hepatic and neurologic systems.

III. Laboratory Tests:

CBC.

Blood chemistries that include kidney and liver function tests.

Urinalysis.

IV. Other Tests:

Spirometry, including FVC, FEV, and FEF 25-75 conforming to NIOSH Standards.

Resting 12 lead electrocardiogram.

Exercise stress test, chest radiograph and other medical tests if medically indicated.

APPENDIX D

Contamination Report

A. LABORATORY TYPE AND HAZARDS

Laboratory Type (Check)

- ☐ Methamphetamine
- ☐ Cocaine
- ☐ P2P
- ☐ LSD
- ☐ Amphetamine
- ☐ Fentanyl
- ☐ PCP
- ☐ Other (Specify) _____

Production Method: _____

Potential Chemical Hazards (Check)

- ☐ Respiratory Tox.
- ☐ Systemic Tox.
- ☐ External Tox.
- ☐ Carcinogens
- ☐ Corrosives
- ☐ Flammables
- ☐ Explosives
- ☐ Oxidizers
- ☐ Pyrophorics
- ☐ Water Reactives

Specific High Hazard Chemical: _____

Other Potential Hazards (Check)

- ☐ Com Gas Cyldr
- ☐ Heat Stress
- ☐ Cold Stress
- ☐ Confined Space
- ☐ Limited Egress
- ☐ Poor Visibility
- ☐ Slip/Trip/Fall Haz.
- ☐ Electrical Shock
- ☐ Burn Hazard
- ☐ Leaking Containers
- ☐ Damaged Structure
- ☐ Excavation

Other: _____

B. SITE DESCRIPTION

LABORATORY ADDRESS

SITE LOCATION AND DESCRIPTION

STRUCTURE DESCRIPTION

Location of Laboratory Processing Area
(i.e., kitchen, bathroom, basement, etc.)

Estimated Laboratory Size
____Small ____Med. ____Large

_____ Approximate square footage

C. HAZARD ASSESSMENT FINDINGS

LEL	% OXYGEN	PPM	LOCATION IN LABORATORY

INDICATOR TUBES Check any used		RESULTS (circle)	COLOR (changed to)	LEVEL	PPM X	Factor Conversion	=	Adjusted Reading	Maximum Value
	Acetic Acid -	+ -					=		
	Acetone -	+ -					=		
	Benzene -	+ -					=		
	Carbon Disulfide -	+ -					=		
	Ethyl Acetate -	+ -					=		
	Formic Acid -	+ -					=		
	Hydrocyanic Acid	+ -					=		
	Methanol -	+ -					=		
	O-Toluidine -	+ -					=		
	Trichloroethane -	+ -					=		
	Triethylamine -	+ -							

D. COMMENTS (Include additional information, such as poor walking surfaces, limited work space, obstacles, limited egress, etc.)

_____

_____

_____

SECTION E. POSSIBLE CONTAMINATION FOUND INDOORS:

floors _____

walls _____

ceilings _____

Attach diagram of indoor area, indicating where contamination was found.

SECTION F. POSSIBLE CONTAMINATION FOUND OUTDOORS:

soil _____

vegetation _____

pools, lakes or streams _____

pavement _____

Attach diagram of outdoor area, indicating where contamination was found.

SECTION G, INVENTORY: Inventory containers of chemicals, including container type, size, contents (write "UNK" if unknown) and describe color or appearance of contents, and if possible volume of mass. Include compressed gas cylinders, and include equipment and paraphernalia present.
Attach a copy of the hazardous waste manifests and drum packaging lists used to ship chemicals and contaminated materials from the site.

DISCLAIMER: The information provided on this form has been provided by law enforcement personnel not formally trained in environmental health and safety site evaluations. This information may be incomplete, and the law enforcement agency does not guarantee its accuracy.

INSTRUCTIONS

SECTION A LABORATORY TYPE AND HAZARDS
Laboratory Type: Write in the production method if known or suspected (example: methamphetamine via red phosphorus/hydriodic acid).
Potential Chemical Hazards: List any specific highly hazardous chemicals known or suspected of being present (example: ether, thionyl chloride, red phosphorus, etc.)
Other Potential Hazards: Check all boxes indicating known or suspected hazards. List any other known or suspected hazards (example: low overhead, unstable container storage, booby traps, etc.)

SECTION B SITE DESCRIPTION
Site Location and Description: (Example: detached garage 10 yards from house, outside storage shed near rear door of main building).
Structure Description: Physical description i.e., size , shape, type, condition, etc., (example: 10' x 10' wood barn, no windows; small warehouse, fire damaged with opposing roll up doors).

SECTION C HAZARD ASSESSMENT FINDINGS. During initial assessment, measure and record findings as indicated.
LEL - (Lower explosive limit level) (Example: 1%, 15%, etc.)
% Oxygen - (percent oxygen) (Example: 21%, 18%, etc.)
PPM - (parts per million) (Example: 100 ppm, 350 ppm)
Location in the lab - Describe each location where a series of three measurements were taken. (Example: front door, southeast corner of bathroom)
Indicator Tubes (If available and if situation warrants their use) - Check name of each tube to be used/tested.
After the test, circle + for color changes, and circle - for no color change.
Describe color change (example: dark brown, etc.).
Record the ppm level reading from tube.
Write in the conversion factor, if necessary, according to instructions with the tubes for substances related to those for which the tube is specifically designed (Example: 2, 3, 4).
Calculate an adjusted reading, i.e., ppm x conversion factor (example: 100 ppm x 2 = 200 ppm)

SECTION D COMMENTS - include additional information, such as poor walking surfaces, limited work space obstacles, limited egress, etc.)

SECTIONS E & F DESCRIBE the contamination found in each of the areas listed (Example: odor, color, solid/liquid, etc.) and estimate the extent (Example: 3 feet by 5 feet) where possible.

SECTION G INVENTORY - self explanatory.

APPENDIX E

Sample Pre-Trial Destruction Order

Based upon my training and experience, I believe that a search warrant of property located at _____will result in the seizure of numerous dangerous and toxic chemicals, as well as contaminated glassware and equipment. Preservation of these items would pose a high risk of explosion and contamination of other evidence in holding facilities, as well as danger to the seizing officers and eventually the evidence custodians. I seek, by this affidavit, an order authorizing destruction of any toxic or dangerous chemicals, contaminated glassware, and equipment found on the premises.

Samples of suspected controlled substances will be preserved for evidentiary use, testing, and analysis.

APPENDIX F

WARNING WARNING WARNING

A clandestine laboratory for the manufacture of illegal drugs and/or hazardous chemicals was seized at this location on ____(Date)_____ . Known hazardous chemicals have been disposed pursuant to law.

However, there still may be hazardous substances or waste products on this property, either in buildings or in the ground itself. Please exercise caution while on these premises.

Name
Address
Phone Number of the Law Enforcement Agency

Agency Logo

WARNING

APPENDIX G

Draft Notification Letter to Health, Law And Environmental Agencies

Date:
Name
Address
Dear Sir or Madam:

This letter is to advise you about the search of the property located at **(Address Including Zip Code)**, on **(Date of Seizure)**. A clandestine drug laboratory was seized and hazardous chemicals and/or wastes were found at the said property. Hazardous chemicals and substances were seized by **(Agency Making Seizure)** and have been disposed pursuant to existing federal and/or state laws.

The person(s) arrested on the property was/was not the legal owner of the property where the clandestine laboratory was seized. Our investigation revealed that **(Full Name of Legal Owner)** of **(Address and Zip Code of Owner of Property)** is the legal owner of the property. On **(Date)**, we sent **(Name of Owner)** a certified letter informing of the above seizure (copy attached). This letter serves as a warning that there may still be hazardous substances or waste at or on the property. Attached to this letter is a contamination report with copies of the manifest and drum packing list, which will assist your office in conducting a site evaluation to determine appropriate measures to further protect health and the environment.

Sincerely yours,

Authorized signature
Title of authorized person

Attachments

Draft Notification Letter to Property Owner

Date:
Name
Address
Dear Sir or Madam:

This letter is to advise you, as a legal owner of the property known as _____, that on _____, as a result of the search of your property, a clandestine drug laboratory was seized, and/or hazardous chemicals were found at said property. Known hazardous chemicals and substances were seized by the government and have been disposed pursuant to existing federal and/or state laws.

This letter also serves as a warning that there may still be hazardous substances or waste products at or on your property.

Sincerely yours,

Authorized signature
Title of authorized person
Name of Law Enforcement Agency

APPENDIX H

Call EPA for Provisional No.

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. C A T 1 2 3 4 5 6 7 8 9
Manifest Document No. 1 2 3 4 5

2. Page 1 of 1

3. Generator's Name and Mailing Address
Anyplace State Police
111 State Street, Hometown, CA 00932

4. Generator's Phone

A. State Manifest Document Number
87133329

B. State Gererator's ID
H Y H A 8 3 8 9 7 7 2 0

5. Transporter 1 Company Name
Anyplace Environmental Management Corp.

6. US EPA ID Number
C A D 9 8 0 8 4 1 8 3

C. State Transporter's ID 6001

D. Transporter's Phone 916/985-6666

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
Anyplace Environmental Management Corp.
11855 White Rock Rd.
Smithville, CA 95670

10. US EPA ID Number
C A D 9 8 0 8 4 1 8 3

G. State Facility's ID
C A D 9 8 8 8 4 1 8 3

H. Facility's Phone
916/985-6666

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No	Type	13. Total Quantity	14. Unit Wt. Vol.	Waste No.
a. R.Q., Waste Ethyl Ether, (D001) Flammable Liquid, UN 1155	001	DM	300		State 212 / EPA/Other D001
b. Waste Poison B, Solid, N.O.S., Poison B, UN 2811	001	DM	300		State 331 / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above
11. b. contains ephedrine

K. Handling Codes for Wastes Listed Above
a. b.
c. d.

15. Special Handling Instructions and Additional Information
Inhalation hazard - wear proper respirator
Avoid skin contract - wear boots, gloves, goggles
Additional Information: These materials were seized by State Police at a Clandestine Drug Laboratory located at _____.

16.
GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: John Jones, "on behalf of Anyplace State Police" | Signature | Month 0 5 Day 1 8 Year 8 9

GENERATOR

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

TRANSPORTER

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19
Printed/Typed Name | Signature | Month Day Year

FACILITY

Sample

APPENDIX I

Drug Enforcement Administration Division Offices

Atlanta Field Division
Richard B. Russell Federal Building
75 Spring St., SW, Room 740
Atlanta, GA 30303
(404) 331-4401

Boston Field Division
50 Staniford St., Suite 200
Boston, MA 02114
(617) 565-2800

Chicago Field Division
500 Dirksen Federal Building
219 S. Dearborn St.
Chicago, IL 60604
(312) 353-7875

Dallas Field Division
1880 Regal Row
Dallas, TX 75235
(214) 767-7151

Denver Field Division
721 19th St., Room 316
P.O. Box 1860
Denver, CO 80201
(303) 844-3951

Detroit Field Division
357 Federal Building
231 West Lafayette
Detroit, MI 48226
(313) 226-7290

Houston Field Division
Suite 300
333 West Loop North
Houston, TX 77024
(713) 681-1771

Los Angeles Field Division
Suite 800
350 South Figueroa St.
Los Angeles, CA 90071
(213 894-2650

Miami Field Division
8400 N.W. 53rd St.
Miami, FL 33166
(305) 591-4870

Newark Field Division
806 Federal Office Building
970 Broad St.
Newark, NJ 07102
(201) 645-6060

New Orleans Field Division
Suite 2200
1661 Canal St.
New Orleans, LA 70112
(504) 589-3894

New York Field Division
Suite 1900
555 W. 57th St.
New York, NY 10019
(212) 399-5151

Philadelphia Field Division
10224 William J. Green Federal Building
600 Arch Street
Philadelphia, PA 19106
(215) 597-9530

Phoenix Field Division
Suite 301
3010 N. 2nd Street
Phoenix, AZ 85012
(602) 640-5700

San Diego Field Division
402 W. 35th St.
National City, CA 92050
(619) 585-4200

San Francisco Field Division
Room 12215
450 Golden Gate Ave.
P.O. Box 36035
San Francisco, CA 94102
(415) 556-6771

Seattle Field Division
Suite 301
220 West Mercer
Seattle, WA 98119
(206) 442-5443

St. Louis Field Division
Suite 500
7911 Forsythe Blvd.
United Missouri Bank Bldg.
St. Louis, MO 63105
(314) 425-3241

Washington Field Division
Room 2558
400 Sixth St., S.W.
Washington, DC 20024
(202) 724-7834

APPENDIX J

EPA Hazardous Waste Regional Contacts

Region I (CT, ME, MA, NH, RI, VT)
Director
Waste Management Division
US EPA Region I (HAA-1903)
JFK Federal Building, Rm 2203
Boston, MA 02203
(617) 565-3698

Region II (NJ, NY, Puerto Rico, Virgin Islands)
Director
Air & Waste Management Division
US EPA Region II (AWM)
26 Federal Plaza, Room 900
New York, NY 10278
(212) 264-2302

Region III (DE, DC, MD, PA, VA, WV)
Director
Hazardous Waste Management Division
US EPA Region III (3HW)
841 Chestnut St.
Philadelphia, PA 19107
(215) 597-8131

Region IV (AL, FL, GA, KY, MS, NC, SC, TN)
Director
Waste Management Division
US EPA Region IV
345 Courtland St., N.E.
Atlanta, GA 30365
(404) 347-3454

Region V (IL, IN, MI, MN, OH, WI)
Director
Waste Management Division
US EPA Region V (5H-12)
230 South Dearborn St.
Chicago, IL 60604
(312) 886-7579

Region VI (AR, LA, NM, OK, TX)
Director
Air & Waste Management Division
US EPA Region VI (6H)
First Interstate Bank Tower
1445 Ross Avenue
Dallas, TX 75202
(214) 655-2100

Region VII (IA, KS, MO, NE)
Director
Waste Management Division
US EPA Region VII (WSTM)
726 Minnesota Ave.
Kansas City, KS 66101
(913) 236-2850

Region VIII (CO, MT, ND, SD, UT, WY)
Director
Waste Management Division
US EPA Region VIII (8HWM)
999 18th St., Suite 500
Denver, CO 80202
(303) 293-1719

Region IX (AZ, CA, HI, NV, American Somoa, Guam)
Director
Waste Management Division
US EPA Region IX (T-1)
215 Fremont Street
San Francisco, CA 94105
(415) 974-7460

Region X (AK, ID, OR, WA)
Director
Hazardous Waste Division
US EPA Region X (HW-111)
1200 Sixth Avenue
Seattle, WA 98101
(206) 399-1352

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