AMERICAN HEAT™

presents

Clandestine Drug Labs

500-0189

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I. SYNOPSIS

Hidden, illegal drug labs produce a significant number of fires each year. Often, (particularly in rural areas) the lab is discovered only after a fire occurs. These labs contain many flammable hydrocarbons and volatile organic compounds making these scenes a hazardous materials incident as well as a fire. In addition, some labs are fitted with improvised explosive devices to deter competitors, firefighters, and law enforcement.

II. OBJECTIVES

Upon completion of this lesson:

1. The firefighter should be able to list and describe the fire and chemical hazards associated with clandestine drug labs [NFPA 1001-3-3.1, NFPA 472]

2. The firefighter should be able to list considerations when conducting fire suppression operations at the scene of a clandestine drug lab. [NFPA 1001-3-3.9]

3. The firefighter should be able to describe the roles and responsibilities of fire service personnel at the scene of a drug lab raid.

III. INTRODUCTION

While the potential exists for illegal labs to exist for the manufacture of many different drugs, the greatest numbers of clandestine labs are for the manufacture of methamphetamines.

It is simple to imagine how emergency providers could end up on the site of a clandestine lab and virtually walk into disaster. It is estimated that 30% of the drug labs are discovered as a result of explosion or fire. Because of the unsafe conditions that these labs are operated under, many more may be discovered because of medical emergencies or even a simple nuisance call such as suspicious odors.

IV. KEY POINTS

A. Clandestine drug labs contain many flammable and combustible substances as well as other hazardous materials
B. Clandestine labs are often booby-trapped to protect them or to destroy them in the event of a law enforcement raid.
C. Proper shutdown of the lab is important to prevent explosion and fire as well as to mitigate damage from hazardous materials
D. Clandestine Labs present a hazardous materials mitigation problem to the community and cleanup must be addressed

V. OUTLINE

A. Scope of the problem

Illegal drug labs can be found almost anywhere. They have been operated in private residences, motel and hotel rooms, apartments, house trailers, houseboats, campgrounds, and commercial establishments. Clandestine labs set up in motor homes and trailer trucks are mobile and hard to trace. One clan lab operator even went through the trouble of burying an entire school bus about 10 feet below ground. Entrance into the bus was made through a small tunnel and hatch in the roof. The bus was converted into a meth lab. The discovery of this lab was not only a

chemical hazard but also a confined space nightmare. Clandestine labs are virtually found nationwide and, with the exception of just a few states, most of the country has felt the effects of these laboratories.

B. Drug labs present not only passive but active risks to responders

It is important to keep in mind the mentality of those operating these illegal laboratories. These individuals are committing felonies by operating such a lab and could care less about the well-being of emergency responders. Many protect their laboratories by placing booby traps around their operations. The unsuspecting responder may fall victim to such items as pungi boards filled with protruding nails, explosive devices, or poisonous gas, not to mention firearms used by the operators. Sometimes laboratories are rigged to be destroyed to prevent prosecution in case law enforcement personnel discover their existence.

Labs are often located in rural areas. Because the odors from the labs attract attention, remote, isolated locations are often selected to prevent detection. This is why the first time a lab is located is often because a fire at the location brings emergency responders.

Labs, however are not restricted to just stationary locations. Labs can be moved frequently, without regard to safety or be mobile. Mobile labs can be sequestered in mobile homes, vans, trailers, or even passenger autos.

C. Clues to Look For

There are some common clues to look for when approaching any structure. Some will take practice and a suspicious nature to recognize. The list may not contain all of the signs but it will identify some of the most common ones found at the lab site. Emergency responders must have an in-depth knowledge of their response area and must be keenly aware of the possibility of a lab's presence.

In some communities, the smaller so-called "mom-and-pop" operations may be small, using common household equipment and cooking only enough to supply their "friends". The consequences of this type of operation may not be clear but the absence of large quantities of chemicals and traditional laboratory glassware may make such operation hard to notice.

Clearly, if you enter a structure to fight a fire and find a cooking operation in the bathroom (a common place given the ready drainage and easier cleanup), you may want to consider that this may be a drug lab.

1. The important signs to watch for in structures include:
   a) Windows always covered or painted
   b) Windows and doors secured with bars
   c) Unusual pipes or duct work coming from windows or walls
   d) Evidence of chemical containers or glassware
   e) Unusual odors or tastes including bittersweet, ammonia, acetone, cat urine smell, or a metallic taste in the mouth
   f) Persons going outside of the structure to smoke
   g) Continuously running fans in inappropriate places
   h) Portable generators for outdoor sites
   i) Stressed vegetation

D. Booby Traps

There are many types of ingenious booby traps used by the drug manufacturers. Some of the more common listed in the available material include:

1. Foil Bombs

Foil bombs use a 2-liter soft drink bottle. The bottle contains 2 inches of muriatic acid with a twisted piece of aluminum foil attached to the top. The cap is placed back on the bottle to create an airtight seal. When the bottle is accidentally knocked over by an unsuspecting police officer, firefighter, or emergency medical responder, the aluminum reacts with the acid, building pressure until an explosion occurs. The explosions are of pressure origin but the expanding gas is filled with hydrogen and if near an ignition source can create a fire explosion. These bombs have been known to explode with such force that portions of the roof and windows of a house have been blown off.

2. Other Bombs

Other bombs used by more sophisticated and knowledgeable lab operators are triggered by radio waves. Again, when unsuspecting law enforcement, firefighter, or emergency medical personnel enter the area and trigger their portable radios, an explosion results. For this reason the use of portable radios within a lab area should be prohibited. Other triggering devices of explosives have been discovered wired to refrigerator doors and light switches.

3. Chemical Reactions

The most common chemical reaction used by lab operators is the tripping of a small amount of acid, such as HCl or nitric acid into a plate of cyanide salt, instantaneously producing deadly cyanide gas. Both of these chemicals are common chemicals used in the production of drugs.

4. Trip Wires

Trip wires are rigged to any number of items. The most deadly is an antipersonnel device that has been found in clandestine lab operations that involves tying a monofilament line to the trigger of a shotgun. These devices can be placed either inside the laboratory or surrounding structure or even on the outside property to keep unwanted persons away from the structure.

5. Other Antipersonnel Devices

Other apparatuses have been reported, such as pungi type devices made of nails driven through boards or fishing hooks hanging from tree limbs at the level of the eyes. Just about anything that could cause harm to or slow down law enforcement agents is employed by these drug manufacturers.

E. Chemists in clandestine drug labs range in expertise from no background to Ph.D. in chemistry.

The lack of knowledge or careless attitude of the operators of these labs can compound the risks. Chemists – called "cookers" sometimes actually smoke while producing the drugs!

F. Chemical components frequently found in clandestine labs
   1. Non-metallic reactants
      a) Red Phosphorus (UN1338)
         (1) Flammable solid
   2. Acids
      a) Hydrochloric Acid (Muriatic acid) (UN1789)
         (1) Toxic
         (2) Corrosive

(3) Reacts with water to release gas
b) Sulfuric Acid (UN1830)
(1) Water reactive
(2) Corrosive

3. Bases
a) Sodium Hydroxide (UN1824 solution, UN1823, solid)
(1) Toxic
(2) Corrosive

4. Reactive Metals
a) Sodium (UN1428))
(1) Water Reactive
(2) Produces flammable gas
b) Lithium metal (UN1415)
(1) Water Reactive
(2) Produces flammable gas

5. Respiratory Irritants
a) Anhydrous Ammonia (UN 1005)
(1) Corrosive
(2) Can ignite under certain circumstances

6. Flammables
a) Acetone (or Coleman fluid) (UN1090)
(1) Flammable liquid
(2) Polar, will mix with water
b) Ethyl Ether (UN 1155)
(1) Flammable liquid
(2) Polar, will mix with water
c) Petroleum Ether (UN1271)
(1) Flammable liquid
(2) Non-polar, will float on water
d) Ethanol (UN1170)
(1) Flammable liquid
(2) Polar, will mix with water
e) Isopropyl Alchohol (UN1219)
(1) Flammable liquid
(2) Polar, will mix with water
(3) Produces noxious fumes

G. Chemical reactions in the drug lab have to be handled just like a legitimate processing plant

Emergency medical responders or fire personnel should never stop (unplug) the reaction process of a working lab without knowing what reactions are taking place. The premature stopping of some reactions may cause spontaneous combustion resulting in a fire or explosion.

Although it is not recommended to turn off the chemical process involved in making drugs, emergency responders may be met with having to make that decision based on a risk versus benefit analysis. It would be very easy to state that the process should never be turned off by emergency responders but realistically the term "never" often does not holds true.

Most resources recommend waiting for a chemist from the DEA to arrive and decide how to turn off the laboratory. Other options include calling chemists from local colleges or universities to determine the best option for stopping the process. All of these alternatives should be exercised before making the decision to intervene on the process.

A chemist should be called in by the DEA to analyze the process and determine what can be shut down and when. If the situation prohibits immediate DEA involvement, then the area should be evacuated and the process stopped.

If the determination to stop a process has been made by the on-scene commander after evaluating all other options, several safety

steps should be taken to deactivate the chemical process in progress.

The DEA suggests a method that should safely accomplish the shut down.

- Examine and determine if heating or cooling is taking place.
- Some reactions involve the heating of a chemical and then condensing utilizing tap water. In these cases remove the heat and allow the glassware to cool before turning off the water.
- If vacuum or gravity filtration is occurring allow this process to finish.
- If compressed gas is being used in a reaction, it should be first shut off at the cylinder top, then the regulator should be shut down.
- If vacuum is used within the system, the system should be slowly brought back to atmospheric pressure then the vacuum pump turned off.
- If there is an exothermic reaction (producing heat) taking place, it should be left until the process is completed then the reaction cooled to room temperature.

H. Fire Service role in drug lab raids

If a fire department is called on to assist the local police or DEA officials, it is important to keep in mind that a clandestine lab is three things:

A law enforcement action
A hazardous materials emergency
A crime scene

To successfully mitigate a lab incident all three items must be considered. Preserving evidence is of utmost importance and must be a consideration of the responding hazmat team.

Unfortunately, the possibility of causing harm to other emergency responders such as firefighters or emergency medical personnel is all too real. In many cases, the dangers may be unavoidable due to the clandestine nature of the labs, but in the cases where emergency responders suspect or even know that a lab is involved, it is pure survival to take the utmost care when approaching the scene.

1. Prior to the raid
   a) Locate water supply sources
   b) Determine exposures and how they will be protected in case of a fire
   c) Control zones for potential run-off of hazardous materials
   d) Determine weather conditions
   e) Establish a staging area
2. During raid activities
   a) Provide fire suppression as needed
      (1) Select an attack technique appropriate to the risk and safety of personnel – generally defensive
   b) Exercise extreme caution
      (1) Beware defensive systems left by the lab operators
      (2) Be prepared to provide decontamination for persons
3. Post-Raid activities
   a) Decontaminate fire suppression and protective equipment
   b) Arrange for site cleanup

I. Fire Suppression at Drug Lab Fires

Fire suppression at a drug lab often commences as a response to a rural (or isolated urban) fire call with either an "odor investigation" or smoke and/or fire showing.

1. Watch for the clues

It is important to watch for clues that the location may house a drug manufacturing operation. This will tell you not only the potential for hazardous materials and associated fire and explosion risk but also that the scene may have protective devices installed which could harm firefighters

2. Selection of method of attack

In the absence of knowing that this is a drug lab and with only an odor present, the method may involve entering the structure. Once it is apparent that this is a lab, it is best to exit the structure and contact law enforcement to secure the scene and take possession of the evidence.

a) Defensive Attack and Hazard Mitigation

If, however, the fire is already present, fire suppression must be undertaken, however you should assess the risk to personnel and consider going defensive early in the incident and taking the other steps that you would have taken to mitigate the spread of hazardous materials. You should also prepare to protect exposures and evacuate persons from them.

b) Full Protective Ensemble

Many of the materials used in the manufacture of methamphetamines are also inhalation hazards with significant isolation distances listed in the DOT Emergency Response Guide. Personnel should wear full protective ensemble with SCBA even when performing exterior defensive operations.

VI. GLOSSARY

DEA: Drug Enforcement Agency

Cooker: individual who prepares and mixes chemicals to produce illicit drugs

Pungi device an improvised anti-personnel device used to inflict injury on the individual who triggers the release of the device. Usually consists of a board with spikes of either wood or metal, a spring to deliver the device and a triggering mechanism.

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