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The emphasis in this book was placed on the investigation of clandestine drug labs, with explosives and their manufacture discussed as corollary material. This coincides with the author's experience in investigating hundreds of clandestine lab incidents. In his experience, approximately 1% of the operations he responded to involved the actual manufacturing of explosives. While this may seem to be insignificant in the overall scheme of things, it could prove to be the proverbial tip of the iceberg. Most of these operations involving explosives were detected as a result of a clandestine drug lab investigation or were found by emergency medical personnel when responding to a call for assistance.

The events of September 11, 2001 created a heightened awareness of the potential for terrorist acts in the United States. The terrorist bombings at the Murrah Federal Building in Oklahoma City in 1995 ([Figure 8.1](#)) and the initial bombing of the World Trade Center in 1993 involved homemade explosive mixtures. At the other end of the spectrum is the young prankster who deposits small but effective homemade explosive devices into the mailboxes of neighbors or someone randomly selected. Somewhere in the middle rests the events that played out at the Columbine High School in Littleton, CO, where a group of teenagers brought numerous homemade explosive devices to school to assist in their carnage. The size of the target audience may differ, as well as the profile of the terrorist, but the effect is the same.

## 8.1 Explosives Labs Operators and Manufacturers

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The motivating forces driving the operator of an explosive lab usually differ from those driving the drug lab operator. The goals of the clandestine explosive manufacturer vary widely. There is one group who directs the final product to an end user (or victim) of the terrorist act. Another group utilizes



**Figure 8.1** The Murrah Federal Building in Oklahoma City after the bombing in 1995.

hazardous materials in booby traps to protect their drug manufacturing operation from law enforcement and rival drug manufacturers. Finally there is the hobbyist, who manufactures explosives and explosive mixtures without criminal intent but for the entertainment value received when they detonate their destructive mixtures.

An assistant U.S. Attorney who was prosecuting a militia group in Arizona in 1998 summarized the motivating factors of the individuals involved in an explosives manufacturing incident. The individuals were charged with manufacturing dangerous devices with the intent to deposit them at federal and local courthouses and law enforcement offices. When asked what the motivating factors of the last two suspects in the case were, the attorney responded. One is on a mission from God. The other one is just stupid.

As inflammatory as this comment was, it summarized two of the motivating factors for clandestinely making explosives. The first portion of the statement indicates that one individual had an ideology or a statement he wanted to express through a violent act, manufacturing the explosives and the explosive device was the route he chose to take. The other part of the statement is consistent with the hobbyist who does not realize the potential damage that could be done to himself or innocent people.

## 8.2 Regulation

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The manufacture of explosives is not an illegal activity per se in the United States. However, the federal government heavily regulates it. The widespread legitimate use of explosives has led to laws controlling their manufacture and

regulations governing their use. These regulations were formulated to prevent accidents or eliminate incidents that might jeopardize public safety.

Individual jurisdictions may impose additional restrictions on the manufacture of explosives. These laws are dictated with public health and safety in mind. Lack of stiff criminal penalties provides no incentive to initiate an investigation into the clandestine manufacture of explosives unless it is in conjunction with a major felony.

While the manufacturing of explosives may not be illegal, what the end product is used for may be. For example, combining an oxidizer, a fuel, and a sensitizing agent of flash powder may not be illegal in itself. However, when the components are placed into a sealed pipe, the combination becomes a destructive device (a bomb), which is considered a deadly weapon. Coupling the destructive device with the components necessary to create a booby trap increases the intensity of the criminal act. Rigging the booby trap to function further demonstrates the premeditation.

The manufacturing of explosives can be used to demonstrate intent to commit other illegal activities. It can also be used as an aggravating factor to increase the seriousness of a criminal act. For example, the premeditated act of manufacturing an explosive, i.e., using it to construct a destructive device, that is to be used as a booby trap could be used as an aggravating circumstance during trial. These premeditated acts could be construed as assault with a deadly weapon, which would be further aggravated if law enforcement personnel encountered the device.

Fireworks, on the other hand, have a different distinction. Many of their components are classified as explosives in the broad sense by the U.S. government. However, many local jurisdictions classified them as contraband substances, thus making their manufacture and subsequent possession illegal. Such local jurisdictions feel that the general public does not have a legitimate need to possess fireworks. As with drugs, exceptions are well defined. Properly licensed commercial operations can manufacture, possess, and use fireworks under well-defined circumstances. What would the Fourth of July be without a fireworks display? However, in many jurisdictions, the general public is criminally prohibited from all such activities, except when acting as spectators.

The three categories of materials that need to be considered with regard to such clandestine labs are explosives, fireworks, and pyrotechnics. The differences in each of their definitions determine whether their possession or manufacture is illegal or simply regulated. Properly configured, the components of any one of these groups can be incorporated into a destructive device. This act is illegal in all jurisdictions but for different reasons.

The U.S. government defines explosives, fireworks, and pyrotechnic compositions in Title 27, Code of Federal Regulations Section 55.11 (27 CFR 55.11). Explosives are defined as any chemical compound, mixture, or device,

with a primary or common purpose that is to function by explosion. The term includes but is not limited to dynamite and other high explosives, black powder, propellant powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter cord, and igniters. The list of explosive materials is contained in 27 CFR 55.23 and in [Appendix O](#) of this book. Fireworks are defined as any composition or device designed to produce a visual or an audible effect by combustion, deflagration, or detonation, and which meet the definition of “consumer fireworks” or “display fireworks” as defined by this section. Finally, pyrotechnic compositions are defined as chemical mixtures that, upon burning and without explosion, produce visible, brilliant displays, bright lights, or sounds.

By contrast, state and local jurisdictions may address explosives and fireworks under different sections of their legal code. The broad brush that declares the manufacture of drugs illegal on all levels is not generally applicable when it comes to explosives and fireworks. For example, in Arizona, the possession of explosives is addressed in Title 13 (Criminal Code), and the possession and manufacture of fireworks is addressed in Title 36 (Public Health and Safety). Therefore, it is imperative that all federal, state, and local laws be considered during the investigation of explosive manufacturing situations.

### **8.3 Scene Processing Procedures**

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The criminal status of the manufacturing of explosives is not an issue when it comes to the procedures used to process the scene of a clandestine manufacturing operation. The procedures are the same as with any clandestine lab, the only difference being that the safety issue becomes much more apparent. Personnel processing the scene must keep in the forefront of their mind the fact that the sole purpose of the operation is to produce a substance that, by definition, is a hazardous material (an explosive). The three general hazards associated with clandestine labs listed in [Chapter 2](#) increase the complication of the processing process at least one order of magnitude.

The operators have little chemical training. They do not understand the hazardous potentials of the chemicals with which they are working. In many instances, the chemicals involved in these operations are on the extreme end of the hazard scale. The acids are some of the most corrosive and possess oxidizing characteristics. The oxidizers are extremely reactive, some to the point of becoming shock or friction sensitive when combined with the right or wrong component.

The lack of understanding of proper laboratory techniques increases this general hazard. Quality control is significant in the world of the clandestine chemist, and certainly not where it should be, in an arena where the purity

of the final product is critical. Impurities lead to an increased or decreased sensitivity of the compound or mixture, which in turn, leads to unpredictability in the explosive characteristics. The simple fact that the pH is too high or too low may change a relatively stable explosive into one that detonates with the slightest provocation.

As in drug labs, the operator's lack of chemical knowledge leads to the improper storage of chemicals. Ethers exposed to the atmosphere for extended periods of time form explosive peroxides. The accidental explosive potential of picric acid increases dramatically, when it is allowed to dry completely or is stored in a container with a metallic lid.

Finding an unlabeled container is the scariest situation of all. The operator may or may not know what it contains. Accidental detonation of unlabeled containers or unknown substances leads to the detection of many explosive manufacturing operations. It cannot be stressed too often that extreme caution should always be exercised when handling these containers, because the simple act of moving them may cause them to explode.

Curious juveniles operate many clandestine explosive labs. As in clandestine drug labs, their source of information is underground literature or the Internet. The reliability of these recipes is suspect at best. For example, many of the recipes encountered on the Internet have been known to be missing one or more of the steps in the manufacturing process. The closet explosive chemist does not have the technical background to detect missing or additional steps in a chemical reaction. This lack of technical knowledge can lead to the production of a final product that does not work or that is extremely sensitive and explodes with the slightest provocation.

The makeshift nature of clandestine explosive operations increases the potential for disaster. Most reactions are performed under less than ideal conditions using equipment not intended for explosives manufacturing. Sparks, friction, or incompatibility between the chemicals and the reaction vessels can potentially lead to an accident during the manufacturing process or while the emergency responders are trying to identify and abate the hazards.

The sequence of events used to process a clandestine explosives lab scene is the same as a clandestine drug lab. Preraid planning ensures that all of the resources required to safely process the scene are available. The scenario is discussed and the assignments are handed out at the briefing. A trained entry team secures the location as quickly as possible and reports its observations. The evaluation and abatement team identifies and neutralizes any obvious hazards and provides an additional perspective for the search team. The search team processes the site for physical evidence and prepares the site for the disposal company.

The most significant difference between the processing of a clandestine explosive lab and a clandestine drug lab is the interaction between the eval-

uation and the search teams. In many instances, these functions are combined. The potential for encountering explosive compounds exists throughout the search phase of the operation simply because explosives are the final product. Therefore, the bomb technicians who generally take a passive role during the search of the scene become active participants, as individual items are examined and evaluated.

The documentation of the scene of a clandestine explosive lab is just as important as the documentation necessary for a clandestine drug lab. Even if the manufacturing of explosives is not illegal, the activities that are associated with it may be a serious felony. The manufacturing operation may be construed as the overt act in a homicide or terrorism conspiracy case. Therefore, proper documentation of the scene is essential.

The disposal component of an explosive manufacturing operation takes on a different light. The explosive nature of the end products and many of the precursor chemicals used in the manufacturing process limits disposal options. Many commercial chemical disposal companies will not take explosives or chemicals with explosive potential. If they do, the cost of disposal may be prohibitive.

In these incidences, the local bomb squad often has the authority to perform the disposal operation. This squad has the expertise to safely dispose of the explosive components, which may be completely consumed through combustion or detonation. Even then, regulations concerning the environmental impact of the act must be considered when utilizing this method of disposal.

## 8.4 Summary

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Explosives were invented to cause damage and destruction. The act of clandestinely manufacturing them is not generally illegal in and of itself. Clandestine production often demonstrates a criminal intent for the explosives' end use and can be directly linked to heinous acts of violence and terrorism. The concept is the same, whether it is the mischievous act of blowing up a neighbor's mailbox or the wholesale destruction of an office building, murdering countless innocent occupants. Therefore, if a substance with a legitimate function was manufactured for a criminal purpose, it should be treated with the same fervor.

The concepts associated with the processing of a clandestine explosives lab scene are the same as those used in clandestine drug labs. The hazardous nature of the end product demands extra vigilance when it comes to adhering to safety protocols. The dangerous nature of the end product and the operating conditions used to produce it dramatically increase the potential for disaster through an accidental explosion.