

# Explosives

The Crime Laboratories in Seattle, Tacoma, Spokane, and Marysville can conduct analyses of explosive material and/or post-blast explosive material analysis.

## Precautions

Laboratory personnel **will not accept** unexploded explosive devices, or large quantities (greater than 1 teaspoon) of explosive material.

## Significance

Unexploded devices, and the individual components of a device, will often provide the best evidence to link an individual to a bombing attempt. Fingerprints will often be intact, tape and glue will not have burned away, wiring and fusing will be undisturbed. In such cases, chemical analysis along with trace examination and fingerprinting or DNA analysis can provide a more complete picture of the device, and there is a much greater chance of connecting the device to an individual. Device reconstruction is beyond the scope of the services provided by the Crime Laboratory.

- **Bulk Explosives:** Bulk explosives may be single chemical compounds or they may be mixtures of substances that together are explosive. Explosives can be commercial or military products, or they may be homemade mixtures. Crime laboratory analysis of bulk explosives can identify the components of an explosive, and in some cases, provide information about the possible source of the explosive. In some cases, distinguishing characteristics of an explosive sample can be linked to explosives or individual chemicals in a suspect's possession.
- **Post-Blast Debris:** Debris from an explosion may be burned, buried in rubble, and/or scattered over a wide area. Pieces of an explosive device may be thrown very far from the site of an explosion. An extensive search of the surroundings and painstaking sifting through rubble may be required to obtain important evidence. This evidence may include fragments of the explosive device itself (e.g., pipe fragments, blasting caps, electrical components) or chemical residues deposited on objects near the explosion. Crime laboratory analysis can often determine what explosive material was used in the device, and in some instances, may help develop additional investigative information.
- **Components of Explosive Devices and Deactivated Devices:** Components of explosive devices may include tape, glue, containers, pipes, fuses, wires, blasting caps, clothespins, clocks, remote controls, etc.

## Collection

**Do not submit active devices to the laboratory.** Active devices, including blasting caps, should be rendered safe in some way before submission to the laboratory. Call your local bomb squad or the Washington State Patrol Bomb Unit to deactivate the device. Make note of what method was used to deactivate the device (e.g., water cannon, blown up with dynamite, etc.), and provide this information documented on the RFLE when submitting the evidence.

## Packaging

Items with sharp or jagged edges should not be packaged in paper envelopes. Use sturdier containers such as clean metal paint cans.

Sample Type	Specifics
<b>Bulk Material</b>	<p>Submit only small amounts of bulk explosives. Be sure to include representative samples of the material, especially if there are indications of mixtures. Typically a teaspoon of material is sufficient for laboratory analysis of bulk explosives.</p> <p>Many explosives, particularly "high" explosives, contain components that are volatile and will evaporate over time. It is recommended that these suspected materials be packaged in a vapor-tight container such as clean metal paint cans, vapor-tight plastic bags (such as polyester or nylon bags), or screw-top glass vials with Teflon-lined lids.</p> <p>Flash powder can be very sensitive and may ignite with a spark. If possible, package flash powder in anti-static plastic bags, made for use with static-sensitive computer components; or screw-top glass vials with Teflon-lined lids. Do not package bulk flash powder in metal containers or plastic bags not designed to be static-resistant.</p>
<b>Post-Blast Material</b>	<p>If possible collect the entire exploded device or as many pieces/fragments as can be found. Porous materials or objects with cracks and ridges tend to collect a large amount of useful residues. Materials from near the blast site such as foam, rubber, pipe threads, cardboard, or any rough-surfaced items will often be useful items to collect.</p> <p>Again packaging of these materials are similar to the bulk material collection paying attention to "chemical bombs" which could have acidic residues remaining which could rust metal cans.</p>
<b>Controls</b>	<p>For exploded devices a control sample may need to be taken. Submit control samples in a separate package along with the evidence. For example, if soil from a blast site is submitted, also collect a sample of similar soil from an area away from the seat of the blast. If a portion of rubber molding with blast residues is submitted, also submit a clean area of the molding. Package controls in the same manner as samples with residues – the manner in which a piece of material is packaged can affect the analysis (e.g., bacterial action in soil over time).</p>

### Submission

In order to assure the safety of WSP CLD personnel and to be in compliance with applicable Federal Regulations, all bulk material from unexploded devices must be **delivered in person** to one of the four CLD laboratories that perform explosives analysis. **DO NOT SHIP.** The Spokane, Marysville, Seattle, and Tacoma laboratories are the labs currently performing explosives examinations.

If fingerprint analysis is desired, submit the items to the Materials Analysis section of the crime laboratory first. Indicate clearly that a fingerprint examination is needed. The crime laboratory can usually forward evidence to the latent prints section after the explosives analysis is finished.

If any questions arise about evidence collection, packaging, submission, or about what services the laboratory can provide, call the crime laboratory for assistance and advice.