

Purpose: To analyze debris from an explosive site and to identify the explosive material from the residue.

Responsibility: Section analyst or designee

Materials:

1. Solvents - deionized water and various organic solvents
2. Lab glassware
3. Spot test reagents
4. Microscope
5. Capillary electrophoresis instrument
6. HPLC instrument

Procedures:

A. General examination:

1. Visually and microscopically examine the fragments to determine if a high or low explosive was used.
 - a. Low explosive - debris contains large pieces at 90 degree angle cuts/fragments, black, gray and/or white residues, sulfur odor and/or unconsumed powder.
 - b. High explosive - debris contains small pieces, pitted, knife edged, ferning, explosives wrappers, timing devices and/or unconsumed explosives.

State of Connecticut Department of Emergency Services and Public Protection

Division of Scientific Services

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2. Collect samples for spot test analysis or SEM/EDS analysis using sterile gauze pads, Q-tips, tweezers or other materials deemed necessary by the analyst.

B. Analysis:

1. Wet chemical- Spot test(s) for the presence of explosives residue-see Appendix A and B

Evidence samples may be tested with some or all of the reagents listed on QR Chem 02.

1.1 Record all results on the explosives worksheet-QR Chem 02.

2. Instrumental analysis via SEM/EDS –see SOP FLCH 25

2.1 Write the elements on the explosives worksheet and place the spectra in the case jacket

3. Instrumental analysis via GC/MS –see SOP FLCH 26

3.1. Include the total ion chromatograms and pertinent spectra in the case jacket.

References: Appendix A and B