Experiment 30: Hand Dust Sampling

SYNOPSIS Hand dust is sampled via a validated forensics procedure.

INTRODUCTION

Chapter 4 discusses the types of chemicals used in firing a gun. Lead azides are commonly used in the explosives as a reduction/oxidation reagent. Because the gases are expanding so violently (exploding!) the gas can be forced from the barrel through the breech where small particles of lead are deposited on the trigger hand. The external portion of the gun also is well coated with the gases so that a gun handled after firing can deposit lead to the hand. A standard method to determine if a gun is fired is through wet swabbing of the hand.

PROCEDURE

1. Plastic shaft qtips are soaked in 5% HNO3.
2. The samples are separately collected from a) the back of the hand, b) between the thumb and index finger, and c) from the palm of the hand. Left and righthands should be sampled separately.
3. Qtips are placed in plastic sealable bag and labeled for the 6 separate measurements.

REPORT In addition to materials, methods, and results, your report should include the following information:

1. How were your samples randomized?
2. What efforts were taken to avoid contaminating the sample?
3. How were the samples labeled in order to achieve good quality control?
4. Why is it important to label the portion of the hand the sample was taken and with which hand the sample was taken?
5. How was the sample stabilized to prevent losses in transit and storage? Be specific for the type of sample you have.