

Cocaine Profiling Methodology — Recent Advances

REFERENCE: Moore JM, Casale JF: Cocaine profiling methodology — Recent advances; *Forensic Sci Rev*; 10:13–46; 1998.

ABSTRACT: The rationale for developing cocaine profiling methodology is described. Current cocaine signature procedures in use at the U.S. Drug Enforcement Administration's Special Testing and Research Laboratory are reviewed. Newer selective and sensitive methodology, recently developed, is described. That methodology detects more alkaloidal impurities in refined illicit cocaine than heretofore reported. The alkaloidal impurities were isolated from the bulk cocaine matrix by alumina column chromatography and detected using capillary gas chromatography-mass selective detection in the selected ion mode. Fifty-one refined illicit cocaine samples were subjected to this methodology for the determination of 15 selected alkaloids. Reproducibility data are reported. Methodology for the isolation, detection, and characterization of coca alkaloids in South American coca leaf, a commercial coca-leaf extract, and a large seizure of refined illicit cocaine is reviewed.

KEY WORDS: Cocaine, Gas chromatography/Mass spectrometry, profiling, signature.
