

Illicit Production of Cocaine

REFERENCE: Casale JF, Klein RFX: Illicit production of cocaine; *Forensic Sci Rev* 5:95–107; 1993.

ABSTRACT: The predominant methods currently used for illicit production of cocaine are described. For illicit natural cocaine (i.e., from coca leaf), this includes production of coca paste from coca leaf via both the solvent and acid extraction techniques, purification of coca paste to cocaine base, and conversion of cocaine base to cocaine hydrochloride. For illicit synthetic cocaine (i.e., synthesized from precursor chemicals), the classic five-step synthetic route used in all clandestine laboratories seized to date is summarized. The origins of the most common alkaloidal impurities and processing/synthetic by-products typically identified in illicit natural, illicit synthetic, and pharmaceutical cocaine are discussed. Forensic differentiation of exhibits arising from the various production methods are addressed both in terms of overall product purity and the presence/absence of these impurities and by-products.

KEY WORDS: Chromatographic analysis, cocaine, cocaine hydrochloride, cocaine impurities, drugs of abuse, trace analysis, tropane alkaloids.
