B73 The Analysis of Pigmented Inks

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After attending this presentation, attendees will learn the chemical composition of pigmented inks, how pigmented inks are analyzed, and the aging characteristics of pigmented inks.

This presentation will impact the forensic community and/or humanity by enabling questioned document examiners to know how to analyze pigmented inks

Pigmented inks contain organic or inorganic colorants suspended in a solvent or solvents. These differ from older pen inks in that their colorants are dissolved in a solvent. Pigmented inks are now widely used in ink jet computer printers and in some types of gel pen. They exhibit excellent sta- bility, go on smoothly and are resistant to aging. They also come in many colors and give faithful reproductions of images. Because of the popularity of ink jet printers on computers today, pigmented inks are becoming involved in increasing levels of crime and civil misdeeds.

This project involves the evaluation of a number of methods of analysis of pigmented inks. These include pyrolysis gas chromatog- raphy/mass spectrometry, laser desorption mass spectrometry, liquid chro- matography/mass spectrometry, thermogravimetry and differential scanning calorimetry. The goal is to be able to identify and differentiate various ink jet pigmented inks and to determine if they display chemical characteristics that would enable examiners to track their aging. All studies will be done using ink on paper. These documents will be sampled using tiny, syringe punches as is done in real cases.

Inks, Pigmented Inks, Questioned Documents

 ** Presenting Author*