B127 The Analysis of Cosmetic Glitter

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After attending this presentation, attendees will understand how to analyze various types of glitter and how glitter can be separated from sub- strates such as cosmetics.

This presentation will impact the forensic community and/or humanity by enabling forensic examiners to analyze cosmetic glitter when encountered in crimes

Cosmetic glitter is added to a large number of cosmetics and other products. These include lipsticks, blush, face powder, mascara, eye shadow, body soaps and even writing pens. Glitter is made up of fine (0.25-1.0mm) pieces of polyvinyl chloride (PVC), polyester, or aluminum. It occurs in a number of geometric shapes, most notably square or hexagonal. Round and irregularly shaped pieces are also encountered. Many types of glitter are bilayered, usually with one plastic layer and a thin aluminum or plastic sec- ondary layer. It comes in a wide variety of colors. A large number of man- ufacturers of glitter are found worldwide, most notably in China and Taiwan. Quality control of the size and shape is relatively poor.

In this project, forty glitter-containing cosmetic products were pur- chased at two stores. These included lipsticks, face creams, mascaras and eye shadows. Solvents systems were developed to separate the glitter from the substrates. Solvents included water, methanol, hexane and toluene. Different solvents were required for different products.

The glitter products were then subjected to visual inspection under a stereo microscope, visible microspectrophotometry and infrared (IR) microspectrophotometry. These techniques were evaluated to see to what extent glitter could be differentiated among different brands of the same product and among different products.

Glitter, Cosmetics, Microscopy

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