

Author's Response

Sir:

I appreciate the opportunity to respond to the comments submitted by Mr. Boris Geller, and address statements he made relating to latent-print quality. The article under discussion, "Processes Involved in the Development of Latent Fingerprints Using the Cyanoacrylate Fuming Method," was the product of a research project having two major objectives: a) to understand the basic chemistry involved in the development of latent fingerprints using the cyanoacrylate fuming method, and b) to develop a one-step method of producing colored latent fingerprints using the cyanoacrylate fuming method. This article reported findings from the first of three years of research involving the basic-chemistry objective.

The statement concerning the translucent nature of latent fingerprints developed by the vacuum-deposition method was reported by the cited author. Although one definition of translucent is "clear" or "transparent," another definition is transmitting and diffusing light so that objects beyond cannot be seen clearly. The authors of this publication used the latter definition of translucent.

Research findings reported in this publication were the result of efforts to scope factors relating to the production of cyanoacrylate polymers on the ridges of latent fingerprints. During the scoping phase of this work, developed prints were evaluated while considering numerous parameters. When a parameter was noted as significant, experiments were conducted in which that single parameter was examined under laboratory conditions. During the first year

of research, three critical factors were found to affect the development of latent fingerprints. These critical factors include the type of fingerprint deposited (clean vs. oily), the age of a fingerprint prior to development, and the moisture content within the latent fingerprint. The subjective and objective conditions mentioned by Mr. Geller could influence one or more of these critical factors. However, our primary goal was to determine the basic parameters that affect the cyanoacrylate polymerization on the ridges of a latent fingerprint.

The definition of "quality" as it was used in the context of this publication does merit mentioning. Our use of the term "quality" solely related to the "visible quality" or contrast of white polymer formations located on the print ridge. Given that slightly visible or translucent prints may be made visible using a secondary treatment, the use of this term does not fully relate to the usefulness of a developed print in relation to latent-print examinations.

Since this article was submitted to the J Forensic Sci (Jan 2000), our research has led to the identification of numerous specific initiators within eccrine sweat (anionic acid salts and covalent bases); a method of regenerating clean, children, and oily prints; formulations for artificial clean and oily prints; and theoretical mechanisms for anionic and covalent base-initiated polymerization processes. Our intent is to publish this work in the near future.

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