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PII: S0379-0738(18)30202-0
DOI: https://doi.org/10.1016/j.forsciint.2018.04.044
Reference: FSI 9283

To appear in: *FSI*

Received date: 15-12-2017
Revised date: 13-3-2018
Accepted date: 18-4-2018

Please cite this article as: Niko Nicolasora, Rory Downham, Rachel-May Dyer, Laura Hussey, Aoife Luscombe, Vaughn Sears, A Validation Study of the 1,2-Indandione Reagent for Operational Use in the UK: Part 2–Optimization of Processing Conditions, Forensic Science International https://doi.org/10.1016/j.forsciint.2018.04.044

# A Validation Study of the 1,2-Indandione Reagent for Operational Use in the UK: Part 2 – Optimization of Processing Conditions

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**Abstract:** This paper contains details of work carried out to identify the most effective processing conditions for the optimized 1,2-indandione/zn formulation developed for use under UK conditions. Using direct measurements of fluorescence taken from test spots of amino acids and eccrine sweat during oven processing, complemented with experiments on real fingermarks, it was established that processing temperatures above 120˚C in the oven were detrimental to the fluorescence of the developed mark. Alternative methods of development to oven processing were found to be effective, but less controllable. High levels of humidification were also found to be detrimental to the fluorescence of 1,2-indandione developed marks, and oven processing at 100˚C and 0% relative humidity is therefore recommended for further studies. It has also been shown that 1,2-indandione can develop fingermarks at temperatures as low as 20˚C, making it a candidate for use at crime scenes.

**Keywords**

1,2-indandione, IND, Zinc, Processing Conditions, Optimization