

MEDIA RELEASE



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Controlling Contamination in Forensic Analysis

Imagine this: you're a forensic scientist involved in a controversial criminal case. The outcome literally lies in your hands as you gaze into the DNA evidence direct from the crime scene. But how can you be sure the DNA isn't contaminated? What if an outside factor has tainted your sample?

There is a standard that exists precisely for this reason. It is designed to minimise DNA contamination and therefore produce DNA evidence of higher quality and interpretive value, according to Clinton Cummins from Victoria Police.

The standard changes the way manufacturers make products used in the collection, storage and analysis of forensic evidence. The impact of this standard has been recognised globally and was recently even adopted into international practice.

"With quicker processing times, smaller room for error and reduced overall costs, the benefits are shared throughout the DNA analysis process—from the moment the sample is collected to when it is later used as evidence in court," explained Cummins.

"It also sets a benchmark for forensic science standards to align us with other industries that began this journey some time ago. It is a long-awaited step on a journey towards meeting customers' needs."

Why was this standard developed in the first place? Since the introduction of sensitive DNA analysis methods, a number of laboratories in Australia and around the world obtained results that indicated apparent links between unconnected cases that had been processed in geographically different areas.

Further investigation suggested that the DNA had been introduced during the manufacturing process. This was confirmed after comparing DNA profiles obtained from staff working at the manufacturing site to those obtained from evidentiary material.

The Australian standard, AS 5483:2012, *Minimizing the Risk of Contamination in Products Used to Collect and Analyse Biological Material for Forensic DNA Purposes*, was then born.

It was developed to align with international needs, noting that the manufacturing sector and the product end user were international.

"Manufacturing is now a global enterprise with stages of production being conducted in different countries," added Dr Linzi Wilson-Wilde, Director of the National Institute of Forensic Science in the Australia New Zealand Policing Advisory Agency.

“For the first time forensic laboratories can purchase consumables with the confidence that the products are manufactured to a level which is fit for forensic use.”

Standards Australia Technical Committee CH-041, Forensic Analysis, developed AS 5483:2012. ISO PC 272, Forensic Sciences, the committee responsible for ISO 18385, was created specifically to develop the international version.

Standards Australia provided the Chair and Secretary for the committee. Recently PC 272 was converted into a technical committee TC 272 to continue work on other international forensic science standards.

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