

Success Story

Criminal Investigation

IKA® Make forensic identification Safer and More Efficient

Collected Cases of Injustice Rectified, written in 1247 by a Chinese medicolegist, Song Ci, is considered to be the first monograph for modern forensics. Song Ci's primary goal was the preservation of human life, and the "rectified injustices" referred to in the title alludes to proving the innocence of those who have been incorrectly deemed guilty.

In modern judicial proceedings, the forensic investigators are frequently using medical technologies to analyze human body, corpse and other substances that might be related the legal cases. For example, in the cases of poison-related deaths, they need to identify whether the death was caused by poison, what kind of poison it is, and the quantity of poison content in the body. Hence a comprehensive analysis needs to be carried out and accurate & precise identifications are supposed to be provided to these queries afterwards.

THE CUSTOMER

Important dept. of Public Security Bureau:
Criminal Investigation

Technical Group of Criminal Investigation Department in one municipal Public Security Bureau of Fujian Province, analyze and indentify miscellaneous suspicious material evidences for all criminal cases of the city, mainly focusing

on the inquisition for personal injury/death cases and the identification of forensic material evidence such as toxics, bloodstains, hair, and seminal stain, skeleton etc.

THE CHALLENGE

Improve processing efficiency

Forensic investigators examine a diverse set of unusual materials, identifying all manners of suspicious materials gathered from crime scenes. These may include remaining substances left at the scene (vomit, excrement, litter, etc.), bodily fluids (blood, urine, etc.), hair and fingernails, internal organs, and remnants associated with buried decaying corpses (including coffins and soil) etc.

When asked, most forensic investigators expressed that modern analytical instruments are already quite technologically advanced, with a high degree of sensitivity, accuracy and detection ability, and 70% of the work performed in the laboratory is actually spent in the pre-treatment of samples. Forensic investigator Mr. Huang said: we are confronted with two major problems: 1) how to improve the processing efficiency among variously numerous of samples, and 2) how to reduce the chance of cross-contamination between samples.

"IKA® resolves a most important problem in forensic identification field, and we appreciate it a lot."

Forensic investigator Mr. Huang , Technical Group of Criminal Investigation Department in one municipal Public Security Bureau of Fujian Province



THE SOLUTION

Disposable Tube, World-first dispersing technology

IKA® provides this customer UTDD control tube disperser, which resolves these two problems perfectly. For example, in the cases of Acute Organic Phosphorus Poisoning (AOPP), forensic investigators need to collect and analyze the substances that relative to the hophead such as his/her leftover, drinks, container of the pesticide, vomits, gastric juice, blood, urine, liver, kidney, lung etc. Among various samples, semisolid and solid samples can be collected for analysis by means of organic solvent extraction; but the liver, kidney and lung need to be homogenized before being analyzed. The advantages of IKA® UTDD control in this kind of application can be summarized as below:

- IKA® UTDD control (with 50ml dispersing tube), a tube disperser that can be used to process 3-5g of liver, kidney, and lung tissues, is able to complete the homogenization of one sample within 1-2 minutes; different samples can be simultaneously processed separately, which greatly improves the efficiency of processing compared with traditional manual grinding.
- Viscera samples are high in fibers and connective tissue, the unique reverse function of IKA® UTDD control can

perfectly resolve the problems of fibers and connective tissue winding along the dispersing elements.

- Turbo key can instantaneously accelerate the speed of dispersing elements to 8000rpm, thereby greatly enhancing the dispersing efficiency, so as to homogenize the sample in an instant.
- Disposable tubes are used. The samples are separately processed during grinding, thereby avoiding potential cross-contamination that might occur on an ordinary disperser after repeat use. The ground samples can be stored in the same tubes directly at a temperature of 4°C for future analysis or reference.

THE BENEFIT TO THE CUSTOMER

Quicker and safer, avoid cross-contamination

The ultimate requirement for processing the forensic toxic samples is to avoid cross-contamination while samples processing. IKA® UTDD control can perfectly fulfill this requirement while improving the processing efficiency. Officer Huang said: "IKA® resolves a most important problem in forensic identification field, and we appreciate it a lot."



designed
to work perfectly

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