

application note

IDENTIFYING ILLICIT SUBSTANCES IN MAIL

Synthetic cannabinoids, commonly referred to as Spice or K2, are pharmaceutical-based compounds designed to replicate THC's effects as a substitute for marijuana. However, even minimal consumption of these artificial substances can induce side effects that are significantly more risky and less predictable than those associated with marijuana.

Trends in drug consumption within correctional facilities often reflect those in the broader society. Consequently, instances of substance abuse and fatalities due to overdose are on the rise in the prison population. Synthetic cannabinoids, such as K2/Spice, have become prevalent in these settings owing to their high potency, ability to evade detection, and accessibility.

K2 Spice is often smuggled into correctional facilities through different channels, with mail as a prevalent conduit. Inmates might receive greeting cards, written correspondence, or artwork from children that are infused with the substance. Once these items have been dried, the inmates smoke them. The potency of K2 Spice can vary greatly, resulting in unpredictable and dangerous outcomes.

background

Discerning whether a piece of paper has been infused with narcotics can be challenging. Dogs trained for detection (K9 units) typically identify suspicious mail, which is subsequently forwarded for lab testing. Yet the confirmation process might take from six to nine months or longer. Given that scanning or photocopying every single document entering a correctional facility is both expensive and labor-intensive, an economical and straightforward alternative, such as the **Viken Foxhound**, is needed to enhance the screening procedure.

Viken Foxhound

The Foxhound device is a compact and portable drug identification tool that swiftly recognizes illegal substances through enhanced Ion Mobility Spectrometry (e-IMS™) and artificial intelligence and machine learning. Its sensitivity ranges from detecting trace amounts to larger quantities, aiding in the protection of both inmates and correctional officers.



A DIVERSE ARRAY OF CAPABILITIES TO GET THE JOB SAFELY DONE.

- ✓ Rugged, compact, and lightweight
- ✓ Simple to use, easy to interpret results
- ✓ AI/machine learning for automatic adjustment to any temperature, altitude, and humidity



method

Stationary featuring children's artwork made with markers and paint were infused with K2 spice and methamphetamine. Once dried, the trace side of the Foxhound wand was applied to a 2" x 3" section for swabbing. Subsequently, this wand was analyzed using Viken's AI/ML algorithm and then compared with the narcotics library.

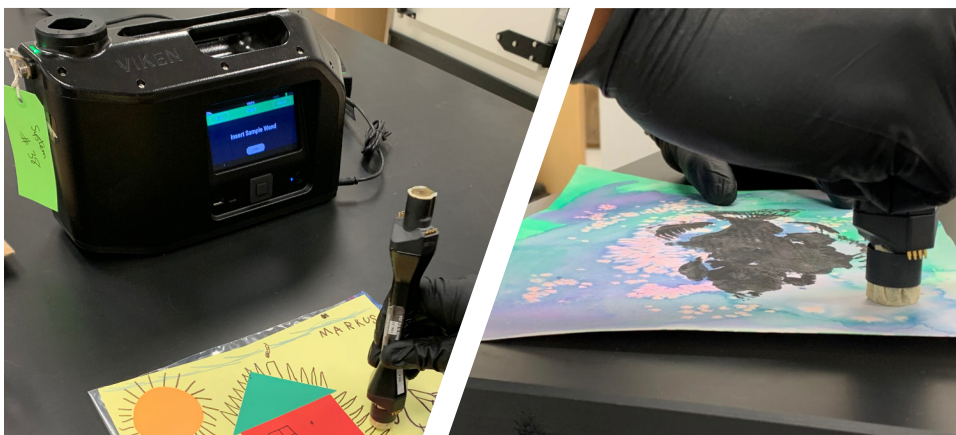
results

Foxhound successfully identified narcotics embedded within paper fibers, maintaining its detection capability even several days after drying. The chart below illustrates the concentration levels of the solution, the tested dosage, and the rate at which detection alarms were triggered. A high alarm rate indicates an increased likelihood of identifying drugs in contaminated mail.

TRACE NARCOTICS ANALYZER CHECKLIST

- ✓ Definitive results in 10 seconds
- ✓ Minimal contact sample preparation
- ✓ Low concentration and multi color substance analysis
- ✓ Quick detection of non-visible trace and visible particles
- ✓ Simple and targeted narcotics library updates to keep up with changing illicit drug chemistry.
- ✓ Low cost of ownership and consumable cost

drug	solution conc. (µg/µL)	test dose (mg)	lethal dose *reported (mg)	alarm rate (%)
k2 spice (JWH073)	12.5	3.75	Very High	100
meth	50	2.5	150-200	100



conclusion

As drug overdoses increase in correctional institutions, it's critical for officers to have access to advanced technology that reliably detects narcotics, such as synthetic cannabinoids.

The Viken Foxhound offers a user-friendly and cost-efficient solution where immediate identification is essential.