

APPLICATION NOTE

PRESUMPTIVE IDENTIFICATION OF XYLAZINE - AN EMERGING THREAT IN STREET DRUGS

- Library with up-to-date threat compounds
- Accepted as SWGDRUG Technique
- Fast analysis time



Xylazine is a non-opioid drug that has rapidly gained attention due to its increased use in recreational drugs, especially in combination with opioid drugs. It is a common veterinary medicine sedative, and not approved for use in humans. However, a strategy used by cartel production includes sourcing more readily available chemicals to use in their production of synthetic drugs. Xylazine is attractive to criminal organizations because it is unregulated, easy to obtain, and enhances their recipe. It has now been discovered by substance users that it extends the high associated with other opioids. Fentanyl mixed with xylazine has street names such as “tranq,” “tranq dope” or “zombie drug.” “Speedball” is another potent combination of xylazine with heroin, cocaine and fentanyl. These combinations have led to an alarming increase in overdose deaths, as users and first responders may not be aware that xylazine is even present, and naloxone will not reverse a xylazine overdose. Another unique side effect associated to xylazine use is the development of severe wounds, including necrosis, that may lead to amputation.

Federal Government Identifies Issue

As of April 2023, the Biden administration has officially declared xylazine laced fentanyl an emerging drug threat to the nation.¹ As part of the action plan to deal with the increasing devastating impact of fentanyl and xylazine combinations, Rahul Gupta (Office of National Drug Control Policy) has requested increased testing capacity across the United States.

Identification of Xylazine in the Field

The chemical specificity and mobility of Rigaku handheld CQL™ Series 1064 nm Raman instruments makes them an effective device for the identification and screening of xylazine, either as a pure compound or as part of a mixture. Numerous studies have proven that 1064 nm laser excitation provides distinct advantages for accurate and timely substance detection. With its unique integrated features and advanced analytics, Rigaku portable instruments expand field analysis, and support efforts to reduce the supply of dangerous substances from communities, and help ensure public safety.

Additionally Raman spectroscopy is accepted as a SWGDRUG Category A technique, and can be used in judiciary processes.

Conclusion

The handheld Rigaku CQL Series of 1064 nm Raman analyzers are the tool of choice among law enforcement and public health departments for the presumptive identification of chemicals used in synthetic drug production. The library included on Rigaku CQL analyzers is continuously updated with emerging chemical threats, as well as recipes that are part of the included 4C™ Technology. This feature automatically monitors individual scan results for dangerous recipe combinations. With various models and support packages, there is a solution for every budget.



The Rigaku CQL Narc-ID™ 1064 nm Raman analyzer displaying a result for xylazine.

Reference: 1. Weixel N (2023-04-12). "White House says fentanyl laced with 'tranq' drug is 'emerging threat'". The Hill. Retrieved 2023-04-13.