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Presumptive Identification of Xylazine

Introduction



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 on the Streets

The chemical specificity and mobility of Rigaku handheld CQL Series 1064 nm Raman instruments, specifically the [CQL Nano-ID](#), 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.



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.

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APPLICATION NOTE

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



Xylazine is a non-opioid drug that has recently gained attention due to its increased use in recreational drug use, 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 crime production includes sourcing more readily available chemicals to use in the production of synthetic drugs. Xylazine is attractive to criminal organizations because it is unregulated, easy to obtain, and enhances their recipe. This has now been discovered by substance users that it extends the high associated with other opioids. This has led to a rise in deaths, as users are not aware of the dangers of combining these substances. Xylazine is a potent component 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,

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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.



The Rigaku OCL Nano-ID™ 532 nm Raman analyzer

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 continually updated with emerging chemical threats, as well as recipes that are per 4C™ Technology. This feature automatically monitors individual scan recipe combinations. With various models and support packages, there's a budget.



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Reference: 1. Patel N (2023-04-12). "White House says fertility boost with 'hard' drug is 'emerging threat'". The Hill. Retrieved 2023-04-12.

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Related products



CQL Narc-ID

Provides presumptive identification of narcotics, precursor chemicals, and cutting agents



CQL Max-ID

Offers features and benefits that maximize chemical threat analysis in safety and security applications



CQL Gen-ID

A cost-effective solution for departments looking for targeted chemical threat analysis