

Ohio Bureau of Criminal Investigation

PUBLIC BULLETIN



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Nitazenes: Ohio BCI Laboratory Update

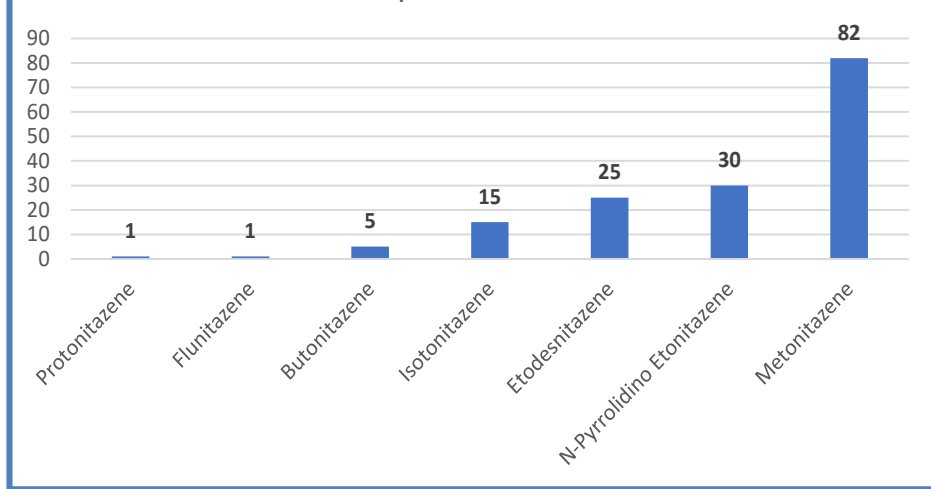
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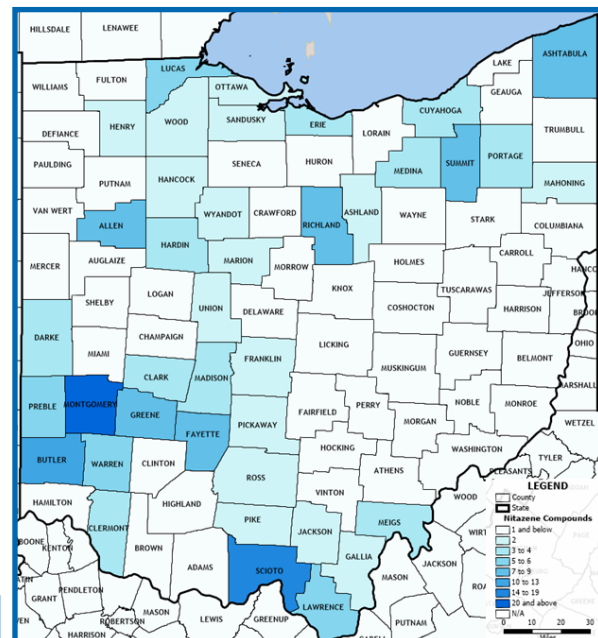
Nitazenes are potent synthetic opioids from a drug class known as benzimidazole-opioids.¹ Over the past two years, the Ohio Bureau of Criminal Investigation's Laboratory Division has seen an increase in not only the submission of items containing nitazenes but also the number of individual nitazene compounds identified.

Nitazene compounds were originally synthesized in the 1950s for research of their analgesic effects; however, these substances are not approved for medical use anywhere in the world.² Three substances identified in this class of drugs - Etonitazene, Clonitazene, and Isotonitazene - were previously classified as Schedule I Drugs. On April 6, 2022, Gov. Mike DeWine signed Executive Order 2022-05D, giving the Ohio Board of Pharmacy the authority to add Butonitazene, Etodesnitazene, Flunitazene, Metodesnitazene, Metonitazene, N-Pyrrolidino Etonitazene and Protonitazene to the list of Schedule I Drugs in this class.³

Nitazene Items Reported Statewide in Q1 2022



Source: Ohio BCI Laboratory Statistics



Ohio Specific Case Observations

Color: White, off-white, beige, brown, tan, gray, black, yellow, peach, orange, green

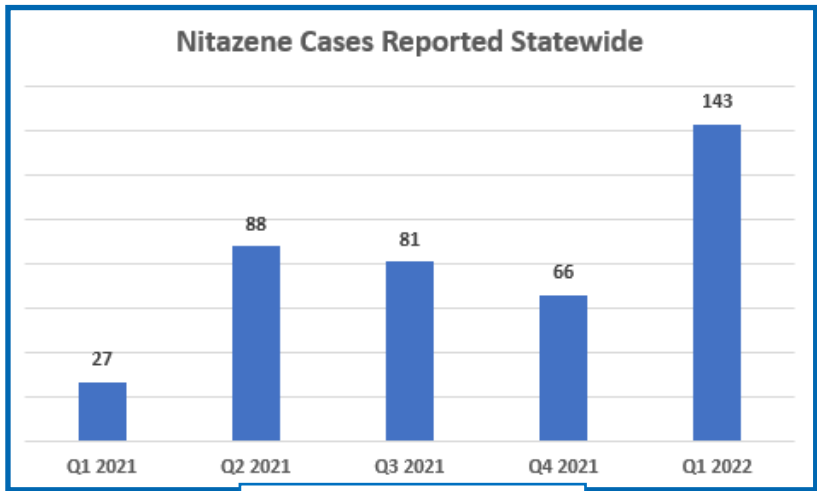
Form: Powder, solid substance, liquid from syringes, residues

Adulterants: Found primarily in combination with fentanyl and fentanyl pharmacophores. Also found in combination with tramadol, cocaine, heroin, methamphetamine, benzodiazepine pharmacophores, and PCP analogs. Non-controlled substances that may be present include caffeine, diphenhydramine, mannitol, xylazine, and quinine.

Locations: Ohio BCI Laboratory submissions containing nitazene compounds were received from the counties depicted above.

Nitazenes: Ohio BCI Laboratory Update

Nitazene compounds, unbeknownst to the user, are often seen in combination with other drugs, including fentanyl and fentanyl pharmacophores. In the first quarter of 2022, the Ohio BCI Lab saw that 82.5% of cases containing nitazene compounds also contained fentanyl.⁴ Recent studies show that the potency of nitazene compounds varies, with some being 1.5-40 times more potent than fentanyl.^{5,6} Substances that trigger the opioid receptors, like nitazenes, have a high potential for abuse and addiction and can induce dose-dependent respiratory depression.² As a result, nitazenes pose an increased risk for accidental overdoses, especially when combined with other substances that suppress the Central Nervous System.¹ Nitazenes have been reported as contributing to deaths across the United States and Canada.^{1, 2, 7, 8, 9}



Source: Ohio BCI Laboratory Statistics

Additional doses of naloxone may be required to reverse overdoses involving nitazene.¹

Officers and first responders should handle all items suspected of containing nitazenes or fentanyl-related substances with caution and proper personal protective equipment.

1. Canadian Centre on Substance Abuse. (2022, March). CCENDU Drug Alert Nitazenes.
2. Drug Enforcement Administration, Department of Justice. (2021, December). Schedules of Controlled Substances: Temporary Placement of Butonitazene, Etodesnitazene, Flunitazene, Metodesnitazene, Metonitazene, N-pyrrolidino etonitazene, and Protonitazene in Schedule I. Retrieved from federalregister.gov
3. State of Ohio Board of Pharmacy. (2022, April). Governor DeWine Authorizes the State of Ohio Board of Pharmacy to Adopt Emergency Rule to Effectively Ban New Opioids. Retrieved from www.pharmacy.ohio.gov
4. Ohio BCI Laboratory Statistics
5. Marthe M. Vandeputte, Katleen Van Uytvanghe, Nathan K. Layle, Danielle M. St. Germaine, Donna M. Iula, and Christophe P. Stove. (2021). Synthesis, Chemical Characterization, and μ -Opioid Receptor Activity Assessment of the Emerging Group of “Nitazene” 2-Benzylbenzimidazole Synthetic Opioids. ACS Chemical Neuroscience, 1241-1251.
6. Marthe M. Vandeputte, personal communication, April 12, 2022
7. Elliott, C. (2022, March). Florida warns of new drug much more powerful than fentanyl. Retrieved from foxnews.com
8. Alex J. Krotulski, Donna M. Papsun, Sara E. Walton, and Barry K. Logan. (2021, December). New Synthetic Opioid Protonitazene Increasing in Prevalence as “Nitazenes” Gain Traction Across the United States and Canada. Retrieved from npsdiscovery.org
9. Alex J. Krotulski, Donna M. Papsun, Sara E. Walton, and Barry K. Logan. (2021, December). Etodesnitazene — New Synthetic Opioid Identified During Forensic Death Investigations in the United States and Canada. Retrieved from npsdiscovery.org



About BCI

The Attorney General’s Bureau of Criminal Investigation serves as Ohio’s crime lab and criminal-records keeper, and it offers expert, impartial investigative services to local, state and federal law enforcement agencies 24/7. Experienced special agents, forensic scientists and other law enforcement experts staff BCI’s Identification, Investigations and Laboratory divisions.

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