

# NOVEL PSYCHOACTIVE SUBSTANCES: NITAZENES

SEPTEMBER 2023

The Legislative Analysis and Public Policy Association (LAPPA) continues to monitor the emergence of novel psychoactive substances (NPS) appearing on the illicit drug market in the United States. The term “novel” does not denote a brand new, never-before-seen substance but rather a substance that is newly available in the drug market. This fact sheet, the fifth in a series highlighting these dangerous drugs, is an examination of nitazenes, a group of synthetic opioids derived from 2-benzylbenzimidazole.

Recently, various media reports have warned the public about a “new” synthetic drug, more powerful than fentanyl. Communities have started to worry about yet another substance that will infiltrate the illicit drug supply and how it will affect the already skyrocketing overdose rate. These reports, while correct, neglect to state that these “new” drugs have been in the drug supply since the early 2000s, and most in the substance use disorder field are already familiar with these substances. The media is mistakenly referring to nitazenes as a singular drug when they are, in fact, a class of synthetic opioids. Substances within the nitazene class include butonitazene, etodesnitazene, flunitazene, isotonitazene (Iso), metonitazene, and *N*-pyrrolidino etonitazene (Pyro), many already found in the drug supply. In order to clarify the confusion, LAPPA has created this factsheet about nitazenes as a whole. For more information on specific nitazenes, please refer to LAPPA’s factsheets on [isotonitazene](#) (Iso) and [N-pyrrolidino etonitazene](#) (Pyro).

Scientists developed nitazenes in the 1950s as analgesics, but the U.S. Food and Drug Administration never approved the compounds for therapeutic use. Nitazenes are mu-opioid receptor agonists with psychoactive effects comparable to those of other mu-opioid receptor agonists, such as morphine, oxycodone, heroin, and fentanyl.<sup>1</sup> Nitazenes are considered to be powerful opioids, with some nitazene compounds being 10 times stronger than fentanyl. Naloxone is effective in reversing nitazene-involved overdoses, but multiple doses of naloxone are often needed.

In recent years, clandestine chemists have introduced several nitazenes into the illicit drug supply. Nitazenes are available in powders, counterfeit tablets, or liquids and are often found mixed with other substances, but their presence is not usually disclosed to the consumer. The inclusion of any form of nitazene compound in a drug product is also not detectable by consumers through any drug detection device such as fentanyl test strips. Currently, the prevalence of nitazene deaths in the United States is unknown. However, nitazenes are increasingly being recorded in toxicology reports. Between 2019 and November 2022, approximately 2,400 cases of nitazene identification were reported to the National Forensic Laboratory Information System.<sup>2</sup> Given the high potency of nitazenes and increase in the drug supply, the U.S. Drug Enforcement Administration temporarily placed seven nitazenes in Schedule I in April 2022.<sup>3</sup> The temporary scheduling order expires on April 12, 2024.

Nitazenes will likely continue to be part of the illicit drug market for the indefinite future. Thus, raising awareness about nitazenes, explaining that it is a class of drugs rather than a single substance, and implementing strategies to reduce harm through increased testing, surveillance, and linkage to treatment are critically important.

---

<sup>1</sup> Mu-opioid receptors are a type of receptor in the brain that is responsible for pain control, drug reward, and addictive behaviors. Gavril W. Pasternak and Ying-Xian Pan, “Mu-opioids and Their Receptors: Evolution of a Concept,” *Pharmacological Reviews* 64, no. 4 (October 2013): 1257-1317, <https://doi.org/10.1124/pr.112.007138>.

<sup>2</sup> “Benzimidazole-opioids,” U.S. Drug Enforcement Administration, last modified Nov. 2022, [https://www.deadiversion.usdoj.gov/drug\\_chem\\_info/benzimidazole-opioids.pdf](https://www.deadiversion.usdoj.gov/drug_chem_info/benzimidazole-opioids.pdf).

<sup>3</sup> Schedules of Controlled Substances: Temporary Placement of Butonitazene, Etodesnitazene, Flunitazene, Metodesnitazene, Metonitazene, *N*-pyrrolidino etonitazene, and Protonitazene in Schedule I, 87 Fed. Reg. 21556 (Apr. 12, 2022).

## RESOURCES

---

Howard, Jacqueline, “Emerging group of synthetic opioids may be more potent than fentanyl, study warns,” *CNN*, August 29, 2023, <https://www.cnn.com/2023/08/29/health/nitazenes-synthetic-opioids-naloxone/index.html>.

Mozes, Alan, “Synthetic opioid nitazenes called more potent than fentanyl,” *UPI*, September 5, 2023, [https://www.upi.com/Health\\_News/2023/09/05/nitazenes-opioids-illicit-drug/7921693929764/](https://www.upi.com/Health_News/2023/09/05/nitazenes-opioids-illicit-drug/7921693929764/).

Miller, Korin, “What are Nitazenes? Synthetic Opioids Linked to Rise in Deadly Overdoses,” *Health*, September 23, 2022, <https://www.health.com/news/what-are-nitazenes>.

Pergolizzi Jr., Joseph, et al., “Old Drugs and New Challenges: A Narrative Review of Nitazenes.” *Cureus* 15, no. 6 (June 21, 2023). <https://doi.org/10.7759/cureus.40736>.

Roberts, Allison, Jessica Korona-Bailey, and Sutupa Mukhopadhyay, “Notes from the Field: Nitazene-Related Deaths — Tennessee, 2019–2021.” *Morbidity and Mortality Weekly Report* 71, no. 37 (Sept. 16, 2022): 1196–1197. <https://www.cdc.gov/mmwr/volumes/71/wr/mm7137a5.htm>.

## ABOUT LEGISLATIVE ANALYSIS AND PUBLIC POLICY ASSOCIATION

The Legislative Analysis and Public Policy Association (LAPPA) is a 501(c)(3) nonprofit organization whose mission is to conduct legal and legislative research and analysis and draft legislation on effective law and policy in the areas of public safety and health, substance use disorders, and the criminal justice system.

LAPPA produces timely model laws and policies that can be used by national, state, and local public health, public safety, and substance use disorder practitioners who want the latest comprehensive information on law and policy as well as up-to-the-minute comparative analyses, publications, educational brochures, and other tools ranging from podcasts to fact sheets. Examples of topics on which LAPPA has assisted stakeholders include law enforcement/community engagement, naloxone laws, alternatives to incarceration for those with substance use disorders, medication for addiction treatment in correctional settings, and the involuntary commitment and guardianship of individuals with alcohol or substance use disorders.

For more information about LAPPA, please visit: <https://legislativeanalysis.org/>.

© Legislative Analysis and Public Policy Association – This project is funded by a grant from the Office of National Drug Control Policy. Neither the Office of National Drug Control Policy, nor any other federal instrumentality operate, control, or are responsible for, or necessarily endorse this project.