

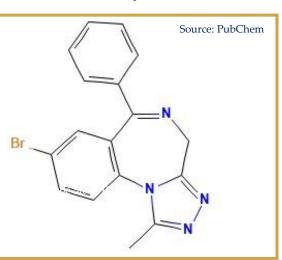
# **2ND QUARTER - 2025**

<u>Objective</u>: The goal of this, and subsequent bulletins, is to provide information regarding identified changes in drug trends, and/or to educate and forewarn about newly identified substances.

<u>Subject Matter:</u> This release provides information regarding the synthetic benzodiazepine bromazolam, which in recent years, has emerged as a public health concern in the United States. As its presence appears to be on the rise, this information is presented to provide guidance on understanding bromazolam, and its potential threat to public health and safety.

## Bromazolam's Origin and Legal Status

Originally synthesized in the 1970s but never approved for medical use [1], it has surfaced in the illicit drug market as a novel psychoactive substance (NPS), often sold under street names like "XLI-268," "Dope," or "fake Xanax," and marketed as counterfeit versions of prescription drugs such as Xanax (alprazolam). [2] Its prevalence has been surging, driven partly by its increasing detection alongside other dangerous substances like fentanyl. [1] Bromazolam is currently not a scheduled substance at the federal level in the United States. [3]



# Physical Appearance-Ingestion Methods-Duration of Effects

Bromazolam initially appears as a white powder or crystalline substance. Bromazolam has also been identified in tablets colored orange or green and as yellow powder. [2] NPS benzodiazepine substances may be found in diverse forms like powders, pills, fluids, and infused blotter paper. [1]

Law enforcement seizures reveal that bromazolam is commonly found in tablet form or as powder. According to online discussion forums, users report consuming it orally through tablets, capsules, or powder mixed into liquids or food. The substance has also been discovered in the form of chewable products ("gummies"). While a discovered syringe containing bromazolam solution near an overdose victim suggests intravenous use, this method appears uncommon. [2]



Though no formal human dosage studies exist, one reference website classifies doses by intensity as "light" (0.5–1 mg), "common" (1–2 mg), and "strong" (2– $\geq$  4 mg). A review of emerging psychoactive benzodiazepines identifies 1 mg as a "typical recreational dose." Effects reportedly begin 15–45 minutes after intake, last 5–8 hours, with aftereffects continuing 1–12 hours. Given the anecdotal nature of this information and unclear sources, these details should be interpreted with caution. [2]



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## **Dangers of Bromazolam**

Bromazolam poses significant risks due to its potency, unregulated nature, and frequent combination with other substances. Bromazolam is a triazolobenzodiazepine (TBZD), which belongs to the benzodiazepine family. [3] What makes TBZD's special is that they have an extra chemical structure (called a triazole ring) attached to the basic benzodiazepine framework. [2] Bromazolam produces effects similar to alprazolam, sedation, anxiolysis (reduction of anxiety), and muscle relaxation, but with a potency that can exceed traditional benzodiazepines at low doses. [3][5] Common dosages range from 1–2 mg, though its unregulated production means strength varies widely, increasing overdose risk. [2]

The drug's adverse effects include drowsiness, loss of coordination, amnesia, slurred speech, blurred vision, and respiratory depression. [1] When taken alone, benzodiazepines are rarely fatal, but bromazolam's danger escalates when mixed with opioids like fentanyl—a combination dubbed "benzo-dope." [1] This pairing can cause profound central nervous system depression, leading to coma or death, as naloxone (used to reverse opioid overdoses) does not counteract benzodiazepine effects. [4]



# **Implications of Use**

Anecdotal reporting indicates short-term use can lead to tolerance and dependence, with withdrawal symptoms reported after cessation, mirroring the addictive potential of other benzodiazepines. [5] High doses may induce dizziness, deep sleep, respiratory depression, seizures, or even death, particularly when combined with other depressants like alcohol or opioids. [1][4][7]

The lack of routine testing for bromazolam in many regions contributes to under-reporting, masking its true toll.<sup>[6]</sup> In counterfeit forms it often goes undetected by users, who may believe they are consuming a safe, regulated substance, as it is impossible to see, smell or detect it. <sup>[2][4]</sup>

In February 2023, the Center for Disease Control (CDC) reported three young adults in Chicago experienced severe reactions after taking bromazolam sold as alprazolam. The main concern was seizure activity, which is rare in benzodiazepine overdoses. Two patients had multiple seizures, with the third progressing to status epilepticus (a seizure lasting too long, or multiple seizures back-to-back) despite antiepileptic medications. Standard treatments proved ineffective. [7]

In addition to the problems generated by the seizures, another unexpected complication arose, myocardial injury. All three patients showed heart damage through elevated troponin levels, a protein found in muscle tissue, which plays a crucial role in muscle contraction; this is a rare complication with traditional benzodiazepines. [7] Scientists are uncertain as to the cause(s) for the heart toxicity. However, it may be due to bromazolam directly damaging heart tissue, seizures putting stress on the heart, lack of oxygen caused by suppressed breathing, or adulterants/polydrug interactions.



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The rise of bromazolam reflects a broader trend of NPS adapting to regulatory crackdowns on other drugs. After the DEA temporarily scheduled five other synthetic benzodiazepines (e.g., etizolam, flualprazolam) as Schedule I substances in 2023, bromazolam—still unscheduled in the U.S.—emerged as a substitute. [8] Its availability on the online drug market under labels like "legal benzodiazepines" or "research chemicals" further enabling its spread. [2] Public health officials warn that bromazolam's unpredictability, and its frequent combination with fentanyl make it a growing threat, urging enhanced testing and public awareness to curb its impact. [1]

#### Prevalence in the United States

Bromazolam's presence in the U.S. has risen sharply since it was first identified in recreational drug supplies around 2019. By mid-2022, the U.S. Department of Justice noted a "surging" number of seizures, with the drug increasingly appearing in forensic cases. [1]

The National Forensic Laboratory Information System's (NFLIS) initial reporting of a bromazolam appearance was in 2016 (<3); following 2016, and through 2018, there continued to be no more than 3 per year reported. However, the detection numbers have increased significantly since, to 710 (2021), 2,142 (2022), and 2,913 (2023), an increase of 310% (710 to 2,913). [7][9]

Additionally, it has been identified in over 250 toxicology cases submitted to NMS (National Medical Services) Laboratories, spanning both antemortem and postmortem investigations [1], and has been implicated in at least 152 confirmed deaths by 2023. [3]



Source: Johnson County Criminalistics Laboratory

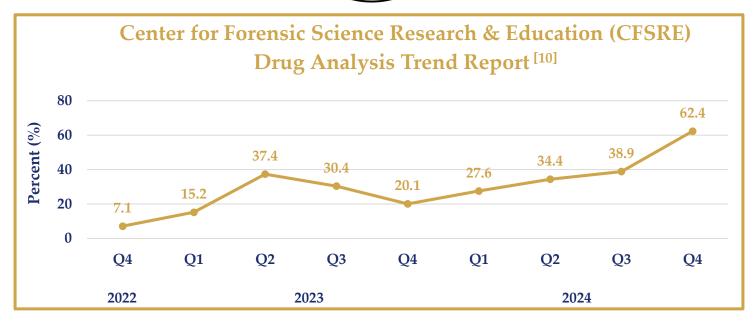
Since 2021, toxicology submissions have been reported to NMS Labs from Iowa, Kansas, and Missouri. <sup>[1]</sup> In 2025, tablet submissions in Kansas were found to contain bromazolam, despite their appearance and imprint identifying them as alprazolam. This rapid rise suggests bromazolam is filling a niche left by other controlled substances, often appearing in polydrug combinations, which amplifies its lethality.

Reliable information regarding the illicit market value of bromazolam across the Midwest HIDTA region remains limited. This is largely due to its underground status, lack of formal monitoring systems, regional market fluctuations, and it being primarily used as an adulterant in combination with other substances, as opposed to itself being specifically sought out. Therefore, bromazolam's estimated cost could be based on the prices of the various other forms of illicit substances it has been associated with.

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- ➤ The CFSRE's trend report pertaining to NPS benzodiazepines for the 4<sup>th</sup> quarter of 2024, includes results from data analysis, standard procedures, specialized testing, and sample examination. <sup>[10]</sup>
- ➤ This report revealed the percentage of bromazolam identifications have increased 779 percent (7.1% to 62.4%) from the 4<sup>th</sup> quarter of 2022 to the 4<sup>th</sup> quarter of 2024. <sup>[10]</sup>

In summary, bromazolam's prevalence in the U.S. has grown rapidly since 2019, with detections climbing, particularly in combination with fentanyl. Its dangers stem from its potency, lack of regulation, and role in polydrug overdoses, increasingly posing a challenge to public health and safety.

## **FAQs**

## What is bromazolam and why is it considered dangerous?

Bromazolam is an emerging street benzodiazepine that has rapidly gained prevalence in the illicit drug market. It's considered dangerous due to its potency, unpredictable effects, and frequent combination with other substances like fentanyl, which significantly increases the risk of overdose and death. [1]

# How does bromazolam differ from traditional benzodiazepines in terms of effects?

Unlike traditionally prescribed benzodiazepines, bromazolam can cause severe adverse reactions such as hyperthermia, seizures, and myocardial injury. These atypical symptoms make it challenging for healthcare providers to diagnose and treat bromazolam overdoses effectively. [7]

## What are the signs of a bromazolam overdose?

Signs of a bromazolam overdose may include severe drowsiness, confusion, slurred speech, and impaired coordination. In more severe cases, individuals may experience respiratory depression, seizures, hyperthermia, and even cardiac complications. <sup>[1]</sup>



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#### **References:**

- 1. D. Papsun, MS, DABFT-FT, A. Krotulski, PhD, R. Mastrovito, MS, S. Walton, MS, and B. Logan, PhD, F-ABFT (June 2022); Center for Forensic Science Research and Education, NPS Discovery, Bromazolam Prevalence Surging Across the United States Driven in Part by Increasing Detections Alongside Fentanyl; <a href="https://www.cfsre.org/images/content/reports/public\_alerts/Public\_Alert Bromazolam NPS-Discovery 061522.pdf">https://www.cfsre.org/images/content/reports/public\_alerts/Public\_Alert Bromazolam NPS-Discovery 061522.pdf</a>
- 2. World Health Organization, Expert Committee on Drug Dependence Forty-fifth Meeting, Geneva, 10-14 October 2022, Critical Review Report: Bromazolam; <a href="https://cdn.who.int/media/docs/default-source/46th-ecdd/bromazolam-46th-ecdd-critical-review-public-version.pdf">https://cdn.who.int/media/docs/default-source/46th-ecdd/bromazolam-46th-ecdd-critical-review-public-version.pdf</a>
- 3. Department of Health and Human Services, Food and Drug Administration (August 7, 2023); Notice Regarding International Drug Scheduling Bromazolam; <a href="https://www.federalregister.gov/documents/2023/08/07/2023-16812/international-drug-scheduling-convention-on-psychotropic-substances-single-convention-on-narcotic">https://www.federalregister.gov/documents/2023/08/07/2023-16812/international-drug-scheduling-convention-on-psychotropic-substances-single-convention-on-narcotic</a>
- 4. Northwest Territories, Health and Social Services (May 9, 2023), Public Health Advisory, Bromazolam Detected in the Northwest Territories; https://www.hss.gov.nt.ca/en/newsroom/bromazolam-detected-northwest-territories
- 5. Department of Health and Human Services, Food and Drug Administration (February 8, 2024); Notice Regarding International Drug Scheduling Bromazolam; <a href="https://www.federalregister.gov/documents/2024/02/08/2024-02573/international-drug-scheduling-convention-on-psychotropic-substances-single-convention-on-narcotic">https://www.federalregister.gov/documents/2024/02/08/2024-02573/international-drug-scheduling-convention-on-psychotropic-substances-single-convention-on-narcotic</a>
- 6. Rodda LN. The surge of bromazolam-related fatalities replacing other novel designer benzodiazepines-related fatalities in San Francisco. Addiction. 2024 Aug;119(8):1487-1490. doi: 10.1111/add.16520. Epub 2024 Apr 28. PMID: 38679868; <a href="https://pubmed.ncbi.nlm.nih.gov/38679868/">https://pubmed.ncbi.nlm.nih.gov/38679868/</a>.
- 7. Ehlers PF, Deitche A, Wise LM, et al. *Notes from the Field:* Seizures, Hyperthermia, and Myocardial Injury in Three Young Adults Who Consumed Bromazolam Disguised as Alprazolam Chicago, Illinois, February 2023. MMWR Morb Mortal Wkly Rep 2024;72:1392–1393. DOI: <a href="http://dx.doi.org/10.15585/mmwr.mm725253a5">http://dx.doi.org/10.15585/mmwr.mm725253a5</a>
- 8. Drug Enforcement Administration, Diversion Control Division (September 25, 2023), Five Synthetic Benzodiazepine Drugs Deemed Imminent Hazard to Public Safety; <a href="https://www.dea.gov/stories/2023/2023-09/2023-09-25/five-synthetic-benzodiazepine-drugs-deemed-imminent-hazard-public">https://www.dea.gov/stories/2023/2023-09/2023-09-25/five-synthetic-benzodiazepine-drugs-deemed-imminent-hazard-public</a>
- 9. United States Department of Justice, Drug Enforcement Administration, Diversion Control Division, National Forensic Laboratory Information System, NFLIS-Drug 2021 Annual Report, Page 17;
  - https://www.nflis.deadiversion.usdoj.gov/nflisdata/docs/NFLISDrug 2021AnnualReport.pdf
- 10. Krotulski, AJ; Walton, SE; DeBord, JS; Mohr, ALA; Logan, BK. (2025) NPS Discovery Q4 2024 Trend Reports, Center for Forensic Science Research and Education, United States; <a href="https://www.cfsre.org/nps-discovery/trend-reports/nps-benzodiazepines/report/49?trend-type-id=1">https://www.cfsre.org/nps-discovery/trend-reports/nps-benzodiazepines/report/49?trend-type-id=1</a>