

Counterfeit Pills

WHAT ARE COUNTERFEIT PILLS?

Counterfeit pills are fake medications that have different ingredients than the actual medication. They may contain no active ingredient, the wrong active ingredient, or have the right ingredient but in an incorrect quantity. Counterfeit pills may contain lethal amounts of fentanyl or methamphetamine and are extremely dangerous because they often appear identical to legitimate prescription pills, and the user is likely unaware of how lethal they can be.

WHAT IS THEIR ORIGIN?

The majority of counterfeit drug production occurs in other countries, mainly China, Mexico, and India. Furthermore, an increasing number of pills laced with fentanyl are being produced in the U.S. Mexican and domestic drug trafficking organizations operating in the U.S. produce counterfeit pills with pre-made chemicals and drugs from China and/or Mexico. They are usually produced in substandard conditions, labeled incorrectly, and may include dangerous, unapproved substances. There are no quality control mechanisms in the illicit labs producing counterfeit pills to ensure dosing is not lethal. Online sales via internet marketplaces and social media are the major sources for obtaining counterfeit pills.

A significant number of high school and college students purchase Adderall and Xanax from dark web drug markets and/or through social media referrals¹, which market deadly versions of these drugs tainted with fentanyl and/or methamphetamine. Some students begin using prescription stimulants, often referred to as “study drugs,” in the belief it will benefit their academic performance, but the nonmedical use of prescription stimulants has not been proven to improve academic performance².



Left: Authentic oxycodone M30 tablets (top) vs. counterfeit oxycodone M30 tablets containing fentanyl (bottom). Center: Authentic Adderall tablets (top) vs. counterfeit Adderall tablets containing methamphetamine (bottom). Right: Authentic Xanax tablets (white) vs. counterfeit Xanax tablets containing fentanyl (yellow).

What are common street names?

Counterfeit oxycodone M30 pills: Mexican Blues, Blues, M-Boxes

1. Moyle L, Childs A, Coomber R, Barratt MJ. #Drugsforsale: An exploration of the use of social media and encrypted messaging apps to supply and access drugs. *Int J Drug Policy*. 2019 Jan;63:101-110. doi: 10.1016/j.drugpo.2018.08.005. Epub 2018 Dec 7. PMID: 30530252.

2. University of Rhode Island. "ADHD drugs do not improve cognition in healthy college students." *ScienceDaily*. ScienceDaily, 19 July 2018.

What do they look like?

Counterfeit pills are nearly identical to actual prescription medications. The majority of counterfeit pills resemble oxycodone 30mg pills (M30s), but can also mimic hydrocodone, alprazolam (Xanax), Adderall, and other medications. There are indications that drug trafficking organizations are specifically targeting kids and teens by creating counterfeit pills in a variety of shapes and bright colors to appeal to that age group. Counterfeit M30 pills can vary in color from white to blue. The best way to avoid counterfeit medication is to take only medications prescribed by a licensed medical professional and dispensed by a registered pharmacist.

How are they used?

Counterfeit pills are especially dangerous because people think they are purchasing legitimate prescription medications. However, these fake pills often contain lethal amounts of illicit drugs. Distributors in the United States are selling counterfeit pills on social media, appealing to a younger audience that use these apps. Minors and young adults experimenting, as well as regular substance users, believe they are buying authentic oxycodone, Adderall, Xanax, or other medicines, but are unwittingly purchasing counterfeit pills that contain lethal amounts of drugs, usually fentanyl and methamphetamine. Fentanyl is approximately 100 times more potent than morphine, and 50 times more potent than heroin as a painkiller. Twenty-six percent of tablets tested in a DEA laboratory contained a lethal dose of fentanyl.

What is their effect on the body?

Counterfeit pills that contain fentanyl can be deadly. A lethal dose of fentanyl is about two milligrams, equivalent in size to a few grains of salt. Fentanyl, similar to other commonly used opioid analgesics (e.g., morphine), produces effects such as relaxation, euphoria, pain relief, sedation, confusion, drowsiness, dizziness, nausea, vomiting, urinary retention, pupillary constriction, and respiratory depression. Synthetic opioids, such as illicit fentanyl, remain the primary driver of the increase in overdose deaths, accounting for 80 percent of all deaths involving an opioid³.

Counterfeit pills containing methamphetamine are highly addictive and act on the central nervous system. Taking even small amounts of methamphetamine can result in wakefulness, increased physical activity, decreased appetite, rapid breathing and heart rate, irregular heartbeat, increased blood pressure, and hyperthermia (overheating).



A lethal dose of fentanyl.

What are the overdose effects?

Fentanyl overdose may result in stupor, changes in pupillary size, cold and clammy skin, cyanosis, coma, and respiratory failure leading to death. The presence of the triad of symptoms such as coma, pinpoint pupils, and respiratory depression are strongly suggestive of opioid poisoning.

Methamphetamine overdose may result in death from stroke, heart attack, or multiple organ problems caused by overheating.

Which drugs cause similar effects?

Drugs that cause similar effects to fentanyl include other opioids such as morphine, hydrocodone, oxycodone, hydromorphone, methadone, and heroin. Drugs that cause similar effects to methamphetamine include cocaine and potent stimulant pharmaceuticals, such as amphetamines and methylphenidate.

What is their legal status in the United States?

Fentanyl-like substances are currently emergency scheduled through October 22, 2021, as Schedule I narcotics. Methamphetamine is a Schedule II stimulant. Drug scheduling information can be found at <https://www.dea.gov/drug-information/drug-scheduling>.

For more information, visit www.getsmartaboutdrugs.com (for parents) and www.justthinktwice.com (for teens).



GULF COAST HIDTA

INVESTIGATIVE SUPPORT NETWORK

OVERDOSE RESPONSE STRATEGY



Emerging Threat Bulletin

Isotonitazene

July 2020

(U) Background

Isotonitazene, also known as “Iso” or “Toni,” is being increasingly identified in overdose deaths throughout the United States. This synthetic opioid was first identified in August 2019 and has been most prominent in Midwestern states. The drug is a type of benzimidazole that is structurally similar to etonitazene, a potent internationally controlled opioid. Isotonitazene reportedly has a greater potency than heroin and morphine, and it is similar in strength to fentanyl. Isotonitazene has been encountered mostly in powder (brown, yellow, or white) tablet, and liquid forms as well as nasal spray to a lesser degree. Isotonitazene has also been found concealed as counterfeit Dilaudid (hydromorphone) tablets circulating in the US.

On June 18, 2020, The Acting Administrator of the DEA issued a notice of intent to publish a temporary order to schedule isotonitazene in schedule I of the Controlled Substance Act, which are drugs that are illegal and have no medical uses. The drug is also not approved for medical use by the FDA.

(U) Source

China has been identified as a main source country for isotonitazene. The restrictions placed by the US on Chinese fentanyl analogues have opened the market to the shipping of isotonitazene. The drug has been shipped from China to European and US markets with many orders originating from Darkweb vendors. Currently, the supply of isotonitazene from China may be limited by reduced production and speed of international shipping due to the COVID-19 pandemic.

Isotonitazene can be purchased in bulk at a low cost from China. Bulk quantities of the drug are often mixed with other drugs to reduce costs. Isotonitazene has been most frequently identified with flualprazolam, fentanyl, heroin, and cocaine

(U) Overdoses

In November 2019, there were 40 to 50 isotonitazene-related deaths per month in the United States compared to about six per month from June 2019 to August 2019 according to forensic toxicology results reported by the Naval Criminal Investigative Service Multiple Threat Alert Center. Due to the shortcomings of preliminary testing, isotonitazene has not been widely identified in laboratories throughout the US. While formal epidemiological studies on isotonitazene use have yet to be performed, self-reported experiences on user websites suggest that dosage regimens for the drug can differ between and within individuals depending on tolerance of the user, other drugs being concurrently used, desired effects, purity and composition of the substance, and dosage consumed. Consumers may be at a higher risk of acute poisoning as isotonitazene is often concealed in counterfeit pharmaceuticals as seen in Figure 1. Similar to other opioids, health risks associated with isotonitazene are often respiratory depression, which in overdose could lead to apnea, respiratory arrest, and death. Additionally, the risk of an overdose from isotonitazene is increased due to the high potency of this drug often requiring several doses of Naloxone to reverse its effects.



Figure 1: Isotonitazene concealed in counterfeit pharmaceutical drugs often have an “M” on one side and the number “8” on the other side – making them almost identical to an 8 mg Dilaudid tablet. Source: International Narcotics Control Board, Global Rapid Interdiction of Dangerous Substances

(U) Law Enforcement Encounters

As of March 5, 2020, there have been 8 NFLIS submissions of isotonitazene in the US. However, law enforcement within the Gulf Coast HIDTA AOR have not yet encountered this drug.

(U) Public Health Encounters

While isotonitazene is on the NMS Labs Toxicology radar, 5 postmortem isotonitazene cases have been identified in the Gulf Coast HIDTA jurisdiction by NPS Discovery/CFSRE & NMS Labs as of April 2020 as shown in Figure 2.¹

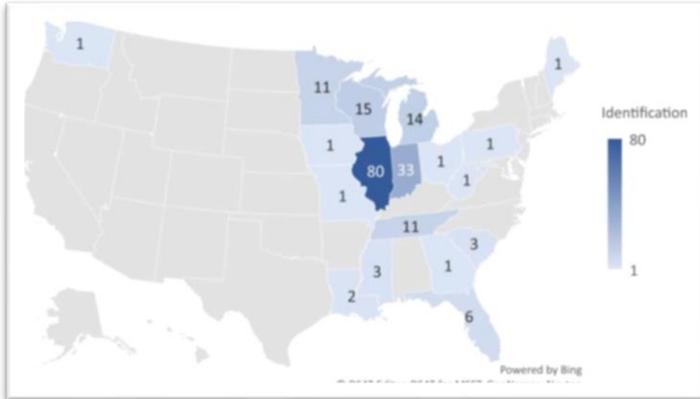


Figure 2: The map to the left shows the postmortem isotonitazene cases in the United States, through April 2020, identified by *NPS Discovery/CFSRE & NMS Labs*. Source: *Isotonitazene Quantitation and Metabolite Discovery in Authentic Forensic Casework*, *Journal of Analytical Toxicology*, 2020

Recommendations for Law Enforcement

- The use of basic personal protective equipment (PPE) and safe handling approaches are encouraged, particularly with fine powders, in line with individual agency policies and procedures.
- All first responders should be equipped with an adequate supply of naloxone as it may require more than one dose for reversal.
- Track and monitor geographical drug distribution and trends.
- Recognize symptoms of synthetic opioid abuse (e.g. respiratory depression, sedation)

Recommendations for Public Health

- Implement surveillance for rapid identification of drug overdose spikes.
- Encourage education among users and first responders about the dangers of synthetic opioid products and how they interact with each other.
- Engage local stakeholders like poison centers and clinicians to assist in treatment of affected patients.
- Become familiar with harm reduction groups in your area and the services they provide.
- Enhance intervention and rescue activities, including increased accessibility of naloxone to people who use drugs.
- Be mindful that overdose situations may change very quickly and unpredictably after using Naloxone due to the onset of precipitated withdrawals.

This information is being released to raise awareness of the unpredictability and danger of this drug.

This bulletin was produced by the Gulf Coast High Intensity Drug Trafficking Area. Questions or comments may be directed to Strategic Programs Coordinator Sabrina Perez at (571) 362-4851 or perezs@gchidta.org. Feedback can be provided here: <https://www.nhac.org/SurveySite/SurveyPage.aspx?LMSID=046df6b7-4c7e-413b-be2c-027010e25032>

Sources:

Chicago HIDTA

DEA, National Forensic Laboratory Information System (NFLIS)

European Monitoring Centre for Drugs and Drug Addiction

International Narcotics Control Board, Global Rapid Interdiction of Dangerous Substances

Journal of Analytical Toxicology

Krotulski, Alex J, Donna M Papsun, Sherri L Kacinko, and Barry K Logan. "Isotonitazene Quantitation and Metabolite Discovery in Authentic Forensic Casework." *Journal of Analytical Toxicology*, 2020.

Naval Criminal Investigative Service, Multiple Threat Alert Center, Threat Division

U.S. Department of Homeland Security, U.S. Customs and Border Protection

¹ Specified data for Shelby County, TN, Escambia County, FL, and Santa Rosa County, FL was not available.

The Rise of Brorphine — A Potent New Synthetic Opioid Identified in the Midwestern United States

Purpose: The objective of this announcement is to notify public health and safety, law enforcement, first responders, clinicians, medical examiners and coroners, forensic and clinical laboratory personnel, and all other related communities about new information surrounding the emergent synthetic opioid **brorphine**.

Background: Synthetic opioids are chemically manufactured drugs, often accompanied with unknown potency and adverse effects or health risks. New synthetic opioids may be mixed with more traditional opioids, creating additional risk and danger for recreational drug users. Synthetic opioids may be distributed in powder or tablet form. In the United States (U.S.), an alarming increase in the number of deaths linked to synthetic opioid use has been reported. The primary adverse effect associated with synthetic opioid use is respiratory depression, often leading to death.

Summary: Our laboratory previously reported the appearance of the potent synthetic opioid **isotonitazene** on the illicit drug market in late 2019. Data from controlled substance testing showed drug materials containing isotonitazene appeared as gray granular powder, often in combination with **flualprazolam**, an illicit benzodiazepine. In June 2020, the U.S. Drug Enforcement Administration (DEA) temporarily scheduled isotonitazene. Shortly thereafter, detections of **brorphine** in the U.S. began to increase, appearing as similar gray drug powders and an apparent replacement for isotonitazene. Brorphine is a potent synthetic opioid with structural resemblance to fentanyl and its analogues. However, brorphine is not controlled in the U.S. under core-structure scheduling of fentanyl related substances. Brorphine was first synthesized and reported in 2018, although analogues of brorphine appear in scientific literature as far back as the 1960s. *In vitro* pharmacological data show brorphine exhibits potency similar to fentanyl. Recent detections in drug related deaths leads us to believe this new synthetic opioid has the potential to cause widespread harm and is of public health concern. As of mid-July 2020, brorphine was confirmed in seven blood specimens associated with fatalities in the U.S.; brorphine has also been reported in Europe (Belgium).

Brorphine Related Deaths Demographics

Age:

- Avg. 52, Med. 53
- Range: 40's to 60's

Sex:

- Male (n=6), Female (n=1)

Case Type:

- Postmortem (n=7)

Specimen Type:

- Blood (n=7)

Date of Collection:

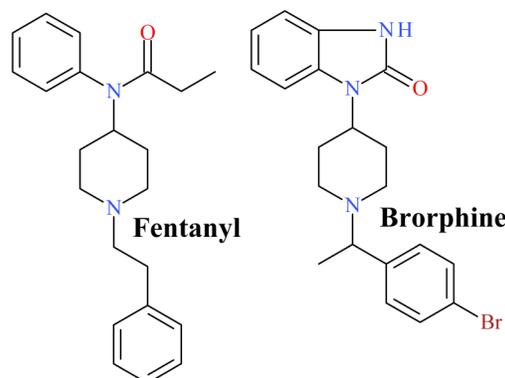
- June to July 2020

Other Notable Findings:

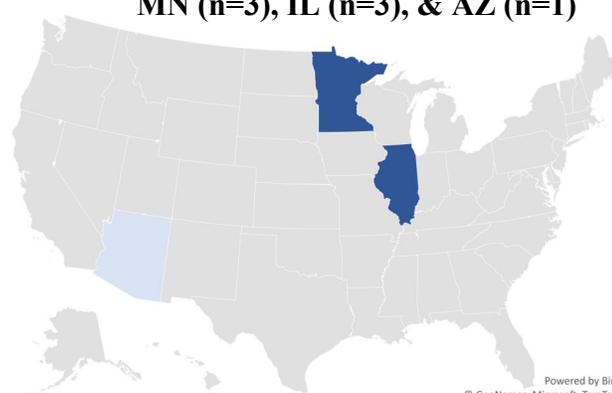
- Fentanyl (n=7)
- Flualprazolam (n=5)
- Heroin (n=4)

Recommendations for Public Health

- Implement surveillance for rapid identification of drug overdose outbreaks.
- Engage local poison centers and clinicians to assist with treatment of affected patients.
- Track and monitor geographical drug distribution and trends.
- Track demographics and known risk factors for decedents and overdose patients.
- Raise awareness about the risks and dangers associated with opioid use.
- Make naloxone available to recreational drug users.



MN (n=3), IL (n=3), & AZ (n=1)



Recommendations for MEs & Coroners

- Test for new synthetic opioids and their biomarkers in suspected opioid overdose cases.
- Be aware that ELISA screening for synthetic opioids may not be specific or specialized for the newest generation of compounds; consider mass spectrometry-based screening.
- Be aware that concentrations of synthetic opioids in biological specimens can vary and GC-MS sensitivity may not be adequate.

Recommendations for Clinicians

- Become familiar with the signs and symptoms associated with synthetic opioid use (e.g. sedation, respiratory depression).
- Naloxone should be administered to reverse critical respiratory depression and repeated naloxone administration may be necessary. Be aware that clinical conditions may change rapidly and unpredictably after naloxone administration due to precipitation of withdrawal.
- Be mindful that illicit drugs have limited quality control, containing undeclared substances that impact the expected clinical effects or findings.
- Counsel about the dangers of synthetic opioid products and other drugs.

Recommendations for Laboratories

- Utilize analytical data available publicly for the identification of brorphine and other synthetic opioids if reference standards are not available.
- Utilize previously developed non-targeted testing protocols or develop sensitive and up-to-date testing procedures for synthetic opioids.
- Prioritize analytical testing of seized drug samples taken from drug overdose scenes during death investigations.
- Share data on synthetic opioid drug seizures with local health departments, medical examiners, and coroners.

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References and Related Articles:

- Kennedy et al. (2018) *Optimization of a series of mu opioid receptor (MOR) agonists with high G protein signaling bias.* *Journal of Medicinal Chemistry*, 61, 8895-8907.
- Verougstraete et al. (2020) First report on brorphine: the next opioid on the deadly new psychoactive substances' horizon? *Journal of Analytical Toxicology*. [Epub ahead of print]
- CDC: [Synthetic Opioid Overdose Data](#)

Rapid NPS Testing Now Available:

If your agency suspects synthetic opioid toxicity with no identifiable cause of death or your jurisdiction is noticing an increase in overdose patients requiring analytical testing, contact NPS Discovery at the Center for Forensic Science Research and Education; a non-profit organization in collaboration with DOJ and CDC, which has received funding to provide rapid testing of novel drug outbreaks in the United States.

Website: npsdiscovery.org Email: npsdiscovery@cfsre.org