

What do we mean by Synthetic Substances?

- ▶ **Synthetic substances:**
Man-made chemicals created in a lab rather than derived from natural plants or materials. Designed to **mimic or enhance the effects** of natural drug, they can vary widely in potency and purity. This increases risk because their exact composition is often unknown.
- ▶ Synthetics are most commonly a **Contaminant** or an **Adulterant**:

Contaminants

Unintended by-products / impurities from the manufacturing or growing process.
Eg. Pesticides in cannabis, Nitazenes in Cocaine.

Adulterants

Pharmacologically active substances added to enhance, mimic, or alter the drug's effects.
Example: caffeine in powdered heroin; SCRAs in liquid vapes.

Dilutants / Cutting Agents

Inactive substances used to bulk out drugs, reducing the proportion of active ingredients.
Example: glucose, baking powder

Opioids

➤ **What they are**

Opioids are natural, semi-synthetic, or synthetic drugs that come from—or mimic—compounds in the opium poppy. They include prescription medicines such as morphine, fentanyl, buprenorphine, methadone and codeine, as well as illegal drugs like heroin and illicit synthetic opioids such as Nitazenes.

➤ **How they work**

Opioids bind to opioid receptors in the brain, spinal cord, and other organs, blocking pain signals and producing pain relief and euphoria.

➤ **Physical addiction:**

With repeated use, the body adapts, leading to tolerance and physical dependence. Stopping suddenly can trigger withdrawal symptoms.

➤ **Opioid Overdose:**

Causes Respiratory Depression High doses, high-potency opioids, or reduced tolerance can slow or stop breathing and heart rate, causing a life-threatening overdose

Synthetic Opioids: Nitazenes

Extremely potent opioid receptor agonists, meaning they have a significant effect on opioid receptors in the body and in turn depress the central nervous system.

They produce broadly similar effects on the body to Heroin, but different types vary in strength/potency.

They have been detected in paper, powder and tablet form.

They can be manufactured rapidly and inexpensively.

Due to their potency, only very small quantities are required. Making distribution and detection easier.

The 95% reduction in heroin supplies between 2022-23 from Afghanistan has fuelled the rise in Nitazene manufacturing and importation.



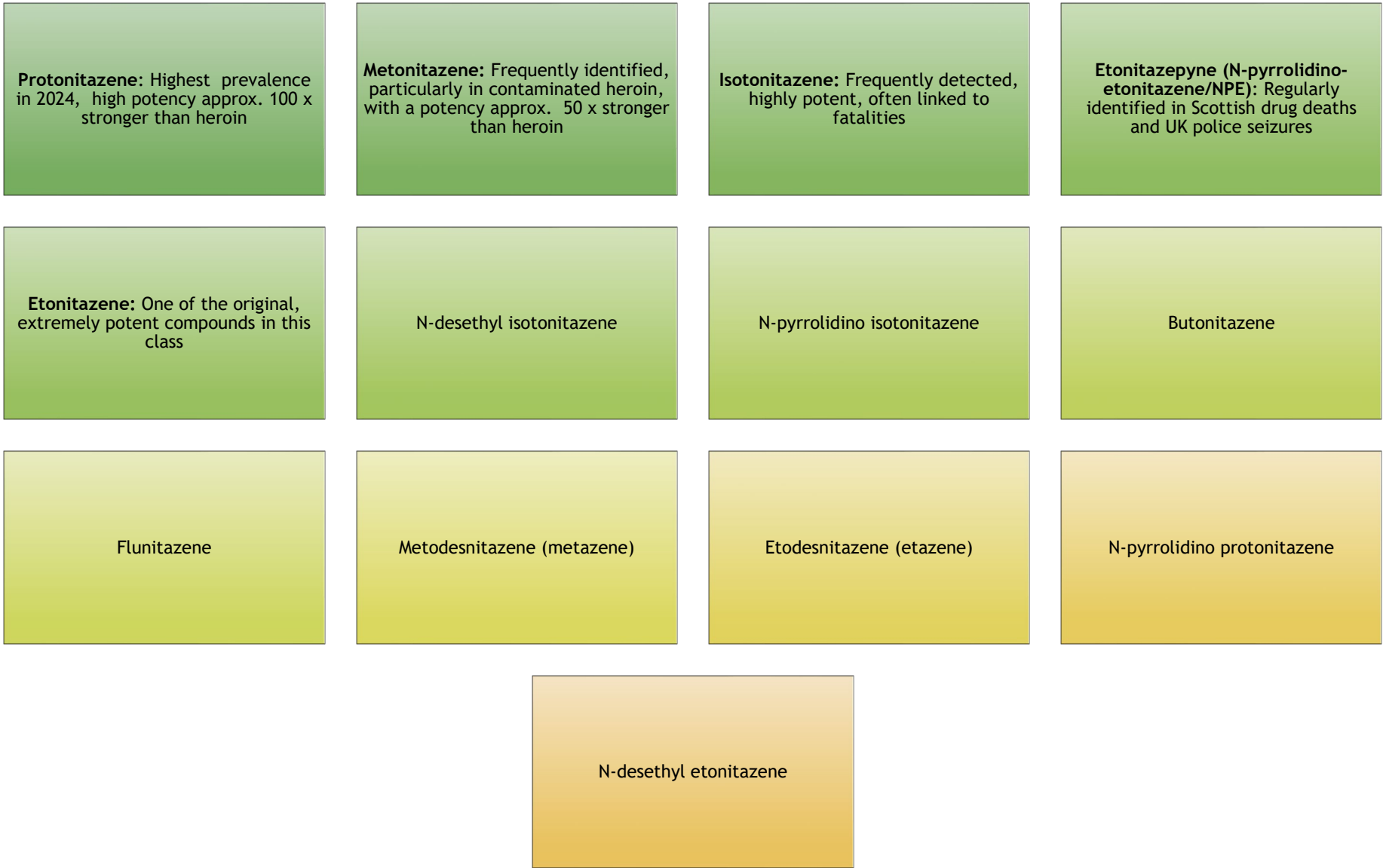
	POTENCY RELATIVE TO HEROIN
Morphine	0.5
Heroin	1
Fentanyl	50
Metonitazene	50
Protonitazene	100
Isotonitazene	250
Etonitazene	500

Based on information from The Lancet.

Key Facts About Nitazenes

- ▶ **History:** Developed in the 1950s as potential painkillers, Nitazenes were never approved for medical use due to their extreme potency and high risk of addiction
- ▶ **Legal Status:** Classified as Class A drugs and in January 2025, the UK had tightened restrictions for them under the Misuse of Drugs Act.
- ▶ **Extreme Potency:** Many Nitazenes are significantly stronger than heroin. Some types are 10 times more potent than fentanyl, or up to 500-1000 times more potent than morphine.
- ▶ **Unexpected Contaminant:** Nitazenes often appear as hidden adulterants in drugs sold as heroin, counterfeit oxycodone, and fake benzodiazepines (“street Valium”).
- ▶ **Signs of Overdose:** Symptoms include severe breathing difficulties, extreme drowsiness, cold/clammy skin, blue/grey lips or fingertips, and loss of consciousness.
- ▶ **High Overdose Risk:** Due to their extreme strength, even tiny, invisible amounts can cause fatal overdose, particularly in people with little or no opioid tolerance
- ▶ **Naloxone:** Naloxone can be used to for Nitazene overdoses, but their high potency may require multiple doses

Nitazenes currently in circulation within the UK





Synthetic Opioids: Orphines

- ▶ **Emerging designer opioids:** Appeared from the mid-2010s as illicit labs created new opioids to bypass controls on fentanyl and Nitazenes.
- ▶ **Highly potent:** Some types—such as cychlorphine—may be 50-200× stronger than heroin, with others similar to fentanyl in strength. They activate the μ -opioid receptor, causing strong pain relief and dangerous respiratory depression.
- ▶ **Overdose concerns:** Due to their potency, naloxone may require multiple doses or may not fully reverse effects in all cases.
- ▶ **Hidden in drug supplies:** Found in counterfeit tablets and in powders without users knowing, increasing overdose risk.

Orphines you may have heard about..

- ▶ Brorphine - first identified in the U.S. in 2020 and later placed under strict international control due to its potency.
- ▶ Spirochlorphine (R 6890) - a newer compound reported in 2025.
- ▶ Bezitramide - previously used medically in Europe but withdrawn due to high overdose risk.
- ▶ Fluorphine
- ▶ Chlorphine
- ▶ Iodorphine
- ▶ 5,6-dichloro Brorphine



Synthetic Cannabinoids: SCRA's

SCRAs (Synthetic Cannabinoid Receptor Agonists) are a group of manufactured chemical compounds designed to mimic the effects of natural cannabis.

Often known by brand names like '**Spice**' '**K2**' or '**Mamba**' or by their chemical names like: MDMB-4en-PINACA

They bind to the same receptors in the brain as THC but are much more unpredictable and **potent (approx. 100-800 times)** than natural cannabis.

- ▶ **Effects and Toxicity:** Can provide some users feelings of relaxation or euphoria, the effects are often much more intense, causing severe agitation, acute psychosis, tachycardia (rapid heart rate), seizures, and potentially fatal cardiovascular and neurological problems.
- ▶ **Dependence:** SCRAs have a high potential for addiction, with severe withdrawal symptoms reported such as sweating, shaking, and intense agitation.
- ▶ **Target Population:** Initially marketed as "legal highs" (before being classified), they are now also used by vulnerable populations, including those experiencing homelessness and prisoners, due to their low cost and high, fast-acting potency.
- ▶ **Legal Status:** In the UK, all SCRAs became illegal to produce, supply, or import under the Psychoactive Substances Act 2016, and they are classified as Class B drugs.



Medicines & Healthcare products
Regulatory Agency

MHRA alert to CDLOs regarding falsified diazepam products. December 2023

This alert is issued for awareness only.

MHRA has continued to receive regular referrals to falsified diazepam products circulating on the UK black market.

Law Enforcement across the UK are seizing these products. Previously the most copied brand was Actavis.



The Actavis brand has now been retired for over 3 years and no stock with this brand is now legitimately available in the UK. The brand is now owned by Accord UK.

Suspects have upgraded the packaging and removed the Actavis logo and replaced it with the Accord logo that appears on the genuine packaging.

Below are images of the updated packaging and a commonly seen falsified batch number. A 100+ cartons of this product were seized in Manchester during warrants executed on 29/11/23.



In October 2023 Accord reported a case where these tablets were found to contain a mix of Metonitazene, Bromazolam and Pregabalin.

Nitazenes such as Metonitazene are potent synthetic opioids, and this is a dangerous combination of substances.

Any instances of this product coming to notice please notify the MHRA via TheBureau@mhra.gov.uk

Contamination alerts



Date: 04/08/2023

Drug Information: Potential adulteration of heroin leading to 2 known overdoses

Change Grow Live have been made aware by the Norfolk Constabulary of two heroin overdoses on the 3/8/23 from heroin purchased in Norwich. Early intelligence suggests adulteration of the heroin with a form of Nitazine synthetic opiate in line with trends across neighbouring counties. Although currently unconfirmed, it is likely the adulterant is a strong variant such as Isotonitazene, 500 times stronger than Morphine, and stronger than Fentanyl meaning an increased risk of overdose. **Multiple Naloxone kits are likely to be required in the event of overdose.**

ACTION AND PRECAUTIONS

Those in contact with heroin users should advise them:

- Injecting clients should smoke a small amount on foil before attempting to inject. They are less likely to die from smoking heroin or any other adulterants because they typically would fall unconscious before inhaling a lethal amount. Please be aware this is a new drug, but there is evidence to suggest nitazine's have the potential to cause overdose even when smoked.
- Even after this, if they still feel all is normal, they should proceed with a dose that is a quarter of what they usually use.
- Encourage clients not to 'slam' their hit. Rather they should depress the plunger slowly, pausing to allow the familiar dose to take effect. And, if they feel it is unusually strong or sedating, remove the needle.
- Ensure clients, and those close to them are aware of the signs of overdose. Now more than ever it is most important that clients have someone they trust nearby, and that they have naloxone.

Those with heroin users when and after they use drugs (including other heroin users) should:

- Watch carefully for the signs of an overdose, e.g. loss of consciousness, shallow or absent breathing, "snoring", and/or blue lips or fingertips.
- Be prepared to call immediately for an ambulance if someone overdoses and administer naloxone if available.

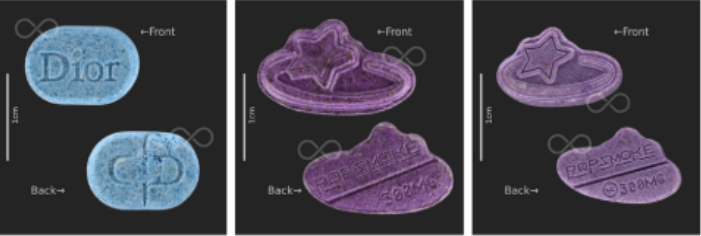
This is third party information and needs to be treated with caution. The situation is likely to develop with further information which will follow when received and reviewed.

Drug Alert examples (from The Loop)

CAUTION: High strength 'Dior' & 'Pop Smoke' pills in circulation, Parklife 2025

These pills, tested by The Loop, contain up to **3x** a common adult dose of MDMA.

MDMA overdose can lead to hospitalisation or fatality.








Blue Dior pills: ~340mg & ~280mg

Purple Pop Smoke pills, different presses: ~310mg (L) & ~300mg (R) - less wide, much thicker

Pill strengths tested on Saturday ranged between **~95-340mg** MDMA.

#TakeQuarterSipWater. Wait at least 90 mins before redosing.

Seek medical help if you experience high body temperature, rigid muscles, excessive sweating, racing pulse/heart, aggression, uncontrolled repetitive movements, vomiting, or seizures.

  @WeAreTheLoopUK
 @WeAreTheLoopUK
 @TheLoop_UK 

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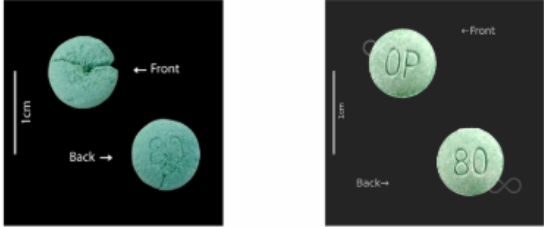
Jun 15, 2025

WARNING: Pills confirmed to contain nitazenes associated with 2 recent deaths

Nitazenes are synthetic opioids ~50-500x stronger than heroin.

The pills **look like oxycodone pills (oxys)**.

Purchase intent is unknown for these pills.








2 pills tested by Eurofins contained N-Pyrrolidino isotonitazene & trace element ketamine & MDMA.

1 pill tested by The Loop & Bath University contained N-Pyrrolidino isotonitazene & trace element MDMA.

Test your drugs; use nitazene **test strips** & if possible, **drug checking** services eg. The Loop. Don't take drugs alone. Carry **naloxone**.

Naloxone **reverses opioid overdose** - multiple doses may be necessary for nitazenes.

Call 999 if you suspect **symptoms of an overdose** eg. shallow or absent breathing, 'snoring' or loud 'rasping', loss of consciousness, blue or grey lips or fingertips.

  @WeAreTheLoopUK
 @WeAreTheLoopUK
 @TheLoop_UK 

WARNING: Pills confirmed to contain nitazenes associated with 2 recent deaths

May 30, 2025

Media Coverage

S The Sun

UK deaths from 'super strength' Frankenstein drug 500 times stronger than heroin underestimated by a THIRD

A 'FRANKENSTEIN' drug thought to be 500 times stronger than heroin is linked to hundreds of deaths a year in the UK. But fatalities could...

NITAZENES:
THE NEW DEADLY DRUG
EMERGING BEYOND FENTANYL



WHAT ARE NITAZENES?
Nitazenes are synthetic opioids first developed in the 1950s as potential painkillers but never approved for medical use.
Just a few grains can cause a fatal overdose.

Southampton mum's warning over super-strength nitazenes which killed her son

Drug users warned of 'lethal' synthetic opioids after three deaths in Colchester

ANGLIA | DRUGS DEATHS | COLCHESTER | ESSEX

Synthetic opioid deaths almost quadruple as drug deaths hit record high in England and Wales

OPIOIDS | DRUGS | HEALTH | POLITICS | ⌚ Friday 17 October 2025 at 9:44pm

T The Times

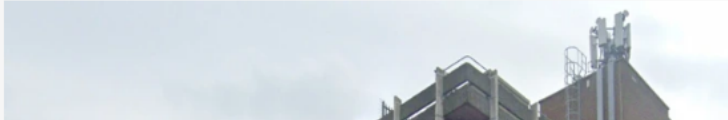
I took the deadly £3 drug that's 500 times stronger than heroin

Nitazenes are flooding Britain. The drug is easy to buy on the dark web — and is now on the streets. A 27-year-old former addict describes...

4 days ago



Man dies and 20 ill amid contaminated spice fear



More than 20 teenagers overdosed on drugs at festival where girl died



Sarah Hooper
Published July 15, 2024 7:02pm Updated July 16, 2024 8:54am



Comments



Scientists issue urgent warning to festivalgoers over terrifying new drug that's 500 TIMES stronger than heroin — as two people die from suspected overdoses in Britain

• READ MORE: [The super psychoactive synthetic cannabis taking over the world](#)

By [WILLIAM HUNTER](#)
PUBLISHED: 10:29, 8 June 2025 | UPDATED: 10:29, 8 June 2025

Why does it matter from a Public Health Perspective?

- ▶ Unpredictability: Both Nitazenes and Orphines include many analogues with different strengths and toxicity.
- ▶ High overdose risk: Nitazenes and Orphines can cause profound respiratory depression, SCRAs can induce psychosis.
- ▶ Naloxone challenges: Some Orphines may not respond as well to naloxone reversal.
- ▶ Rapid emergence: All of these substances evolve quickly as new variants are developed
- ▶ SCRAs cannot be detected by screening tests for THC. There are a few developed drug screens available for specific SCRAs, but many new variants may not appear in simpler tests.
- ▶ SCRAs are commonly found in THC Vapes, which pose a risk to those who purchase these without knowing the risks they pose.