

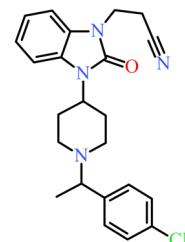
# INCREASE IN FATAL OVERDOSES LINKED TO NOVEL SYNTHETIC OPIOID *N*-PROPIONITRILE CHLORPHINE (CYCHLORPHINE)

**PURPOSE:** The objective of this *Public Alert* is to notify public health and safety agencies, 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 novel synthetic opioid *N*-Propionitrile Chlorphine (also known as “Cychlorphine”).

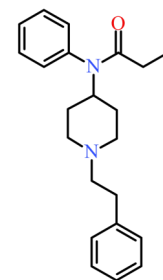
**BACKGROUND:** Synthetic opioids are chemically manufactured drugs, often having unknown potency and adverse effects. Synthetic opioids can be sold alone but are frequently mixed with more traditional opioids (e.g., fentanyl, heroin) and other substances in unregulated drug markets creating risks and danger for people who use recreational drugs. Synthetic opioids are commonly distributed in powder or tablet form. The United States has observed an alarming increase in deaths linked to synthetic opioids; Europe, Oceania, and other regions continue to observe increases as well. Primary adverse effects associated with synthetic opioid use are sedation and respiratory depression, which can lead to death if untreated with naloxone and/or other measures.

**SUMMARY:** *N*-Propionitrile chlorphine belongs to an emergent subclass of novel synthetic opioids often referred to as “orphine analogues” (or more simply “orphines”) and bears structural similarity to other benzimidazolones (e.g., borphine, chlorphine). These drugs have ties to pharmaceutical drug discovery conducted in the 1960s and 1970s, beginning with substances like bezitramide and R-6890 (now referred to as “spirochlorphine”). The orphine analogues first emerged in recreational drug markets in 2020 with the proliferation of *borphine* (a drug first synthesized and published on in 2018). This novel opioid subclass continues to diversify, with at least six analogues confirmed in recent years. *N*-Propionitrile chlorphine was first detected at the **Center for Forensic Science Research and Education (CFSRE)** in mid-2024. *In vitro* pharmacology data show this drug to be approximately 10x more potent than fentanyl [Vandeputte & Stove, personal communication]. The positivity of *N*-propionitrile chlorphine, specifically in fatal drug overdoses, has increased since mid-2025. In July 2025, the Chinese government placed nitazene analogues under generic control. Since this announcement, overall positivity for nitazene analogues has declined as overall positivity for orphine analogues has increased, led in large part by *N*-propionitrile chlorphine.

*N*-Propionitrile chlorphine has been identified in 25 blood specimens from fatal overdoses tested at the CFSRE, the vast majority submitted in late-2025 and early-2026. In addition, *N*-propionitrile chlorphine has been tentatively identified in more than 100 toxicology cases at **NMS Labs**. Toxicology specimens originated from nine states across the United States, as well as three provinces in Canada. *N*-Propionitrile chlorphine was detected as the sole opioid in 11 of 25 cases, and alongside other opioids (e.g., fentanyl, oxycodone) and traditional stimulants (e.g., methamphetamine, cocaine). Co-detection with NPS was common (e.g., novel benzodiazepines [phenazepam], other orphine analogues [spirochlorphine], nitazene analogues, and carfentanil).

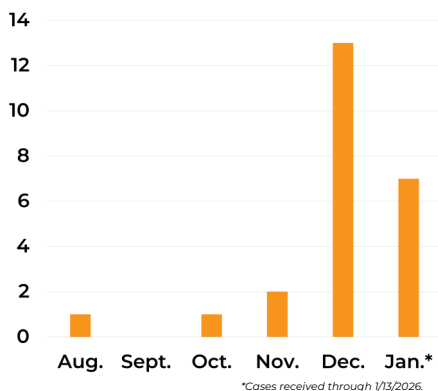


***N*-PROPIONITRILE  
CHLORPHINE**



**FENTANYL**

## POSITIVE CASES SUBMITTED

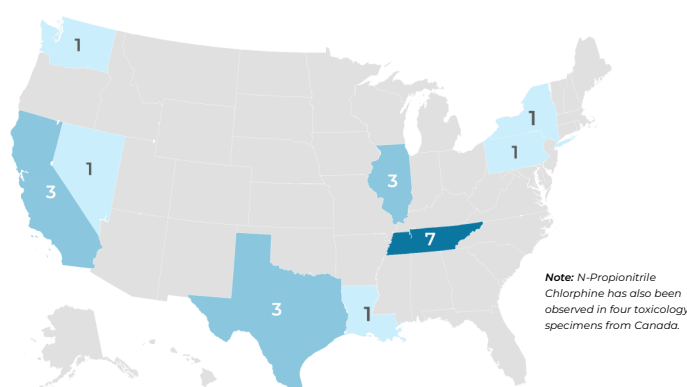


## EMERGENCE OF ORPHINE ANALOGUES

DATE*	ANALOGUE
July 2020	Borphine
Aug. 2024	5,6-Dichloro Desmethylchlorphine (SR-17018)
Dec. 2024	Chlorphine
Dec. 2024	<i>N</i> -Propionitrile Chlorphine (Cychlorphine)
Oct. 2025	Spirochlorphine (R-6890)
Dec. 2025	5,6-Dichloro Borphine (SR-14968)

\*Date of NPS Discovery monograph issuance.

## DISTRIBUTION OF CONFIRMED CASES



## SELECTION OF TOXICOLOGY SPECIMEN RESULTS

DATE	STATE	RESULTS
Oct. 2024	New York	<i>N</i> -Propionitrile Chlorphine, Phenazepam
Oct. 2025	California	<i>N</i> -Propionitrile Chlorphine, Alprazolam, Caffeine
Nov. 2025	Illinois	<i>N</i> -Propionitrile Chlorphine, <i>N</i> -Desethyl Metonitazene, Isotonitazene, <i>N</i> -Desethyl Etonitazene, Spirochlorphine, <i>N</i> -Pyrrolidino Metonitazene, Metonitazene, <i>N</i> -Pyrrolidino Etonitazene, <i>N</i> -Pyrrolidino Protonitazene, Alprazolam, Cocaine
Dec. 2025	Nevada	<i>N</i> -Propionitrile Chlorphine, Bromazepam, Ethylbromazepam, Cocaine, Lidocaine, Caffeine
Dec. 2025	Pennsylvania	<i>N</i> -Propionitrile Chlorphine, Acetaminophen
Jan. 2026	Tennessee	<i>N</i> -Propionitrile Chlorphine, Phenazepam, Fentanyl, Xylazine, Alprazolam, Quinine, Caffeine
Jan. 2026	Texas	<i>N</i> -Propionitrile Chlorphine, Bromazepam, Alprazolam, Oxycodone, Methamphetamine, Cocaine, Levamisole

## CO-OCCURRENCE WITH DRUGS & OTHER NPS

