**Drug Enforcement Administration**
Diversion Control Division
*Drug & Chemical Evaluation Section*

March 2026
DEA/DC/DOE

# BENZIMIDAZOLE–OPIOIDS
OTHER NAME: NITAZENES

## Introduction:

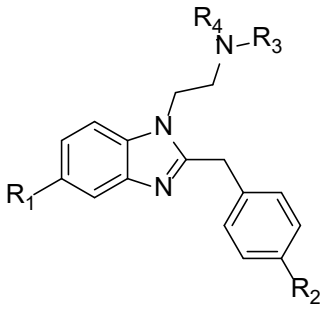
Benzimidazole-opioids—also known as 2-benzyl benzimidazole opioids or nitazenes—are a class of structurally related compounds used for their opioid-like effects. In the late 1950s, the pharmaceutical research laboratories of the Swiss chemical company CIBA Aktiengesellschaft synthesized numerous substances in this structural class. Since 2019, the escalated use of benzimidazole-opioids, as evidenced by their identification in seized drug material and toxicology cases, has resulted in adverse health effects, including death. The continued evolution, increased trafficking, and increased popularity of new and deadly synthetic opioids, including benzimidazole opioids, are a public health concern.

## Licit Uses:

Benzimidazole-opioids are not approved for medical use in the United States.

## Chemistry:

This class of substances contains a benzimidazole core with an ethylamine group at its 1-position and a benzyl group at its 2-position. Small structural modifications to this scaffold can produce a series of analogous substances, including (but not limited to) the substances listed below:




| | $R_1$ | $R_2$ | $R_3$ | $R_4$ |
|---|---|---|---|---|
| Metonitazene | $NO_2$ | $OCH_3$ | $CH_2CH_3$ | $CH_2CH_3$ |
| Metodesnitazene | H | $OCH_3$ | $CH_2CH_3$ | $CH_2CH_3$ |
| Etonitazene | $NO_2$ | $OCH_2CH_3$ | $CH_2CH_3$ | $CH_2CH_3$ |
| Etodesnitazene | H | $OCH_2CH_3$ | $CH_2CH_3$ | $CH_2CH_3$ |
| Protonitazene | $NO_2$ | $OCH_2CH_2CH_3$ | $CH_2CH_3$ | $CH_2CH_3$ |
| Butonitazene | $NO_2$ | $OCH_2CH_2CH_2CH_3$ | $CH_2CH_3$ | $CH_2CH_3$ |
| Isotonitazene | $NO_2$ | $OCH(CH_3)_2$ | $CH_2CH_3$ | $CH_2CH_3$ |
| Clonitazene | $NO_2$ | Cl | $CH_2CH_3$ | $CH_2CH_3$ |
| Flunitazene | $NO_2$ | F | $CH_2CH_3$ | $CH_2CH_3$ |
| Etonitazepyne | $NO_2$ | $OCH_2CH_3$ | $-CH_2CH_2CH_2CH_2-$ | |
| Etonitazepipne | $NO_2$ | $OCH_2CH_3$ | $-CH_2CH_2CH_2CH_2CH_2-$ | |

## Pharmacology:

Benzimidazole-opioids share a similar mechanism of action with other opioids, such as heroin and fentanyl, by binding to and activating mu-opioid receptors in the brain. Opioids have a high potential for addiction and can produce dose-dependent respiratory depression and arrest, which may be fatal.

In scientific studies in rodents, several benzimidazole-opioids have been shown to produce opioid-like effects, including alleviating pain. The potency of benzimidazole-opioids varies based on the specific compound. Studies also show the effects of several benzimidazole-opioids can be blocked by opioid antagonists, such as naloxone.

## Illicit Uses:

Benzimidazole-opioids are used for their psychoactive effects. These substances are likely to be abused in the same manner as schedule I opioids, such as heroin.

The illicit use of these benzimidazole-opioids has led to their positive identification in several toxicological cases in the United States. DEA's Toxicology Testing Program (DEA TOX) is a surveillance program that aims to detect new psychoactive substances in the United States through analyses of biological samples and, on a limited basis, matched paraphernalia. DEA TOX has identified at least one benzimidazole-opioid in at least 96 toxicology cases, the majority of which involved fatal drug overdoses.

## User Population:

The population likely to use benzimidazole-opioids appears to be the same as those using other synthetic opioid substances. This is evidenced by the types of other drugs co-identified in some of the benzimidazole-opioid overdose cases. Toxicology analyses co-identified benzimidazole-opioids with other opioids (primarily fentanyl), stimulants, and benzodiazepines.

## Illicit Distribution:

Some of these benzimidazole-opioids have been identified in drug seizures. DEA's National Forensic Laboratory Information System (NFLIS) Drug database is a system that collects drug analysis identification information from participating federal, state, and local forensic drug laboratories. NFLIS-Drug received some reports of benzimidazole-opioids (i.e., clonitazene [8 reports] and etonitazene [18 reports]) between 1999 and 2004, followed by no reports until 2019. Since 2019, NFLIS-Drug has received over 8,000 reports of 23 benzimidazole-opioids.

## Control Status:

Twenty-one benzimidazole-opioids are currently controlled in schedule I of the Controlled Substances Act. If others are found to meet the criteria outlined in 21 U.S.C. § 802(32) and are intended for human consumption, they may be treated as schedule I controlled substance analogues for the purpose of federal law, pursuant to 21 U.S.C. § 813.

Comments and additional information are welcomed by the Drug and Chemical Evaluation Section; Fax 571-362-4250, Telephone 571-362-3249, or Email DPE@dea.gov.