Drug Enforcement Administration
Diversion Control Division
Drug & Chemical Evaluation Section

FLUBROMAZOLAM

(Street Name: Liquid Xanax)

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DEA/DC/DO/DOE

Introduction

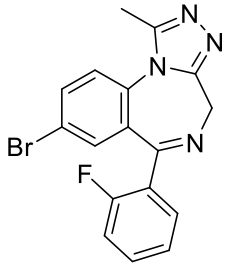
Flubromazolam is a triazole analogue of the designer benzodiazepine, flubromazepam. As a class of drugs, benzodiazepines produce central nervous system (CNS) depression and are commonly used to treat, panic disorders, anxiety and insomnia. The United States Food and Drug Administration has not approved Flubromazolam for therapeutic use.

Licit Uses

Flubromazolam does not currently have an accepted medical use in the United States.

Chemistry

Flubromazolam (8-bromo-6-(2-fluorophenyl)-1-methyl-4*H*-benzo[*f*][1,2,4]triazolo[4,3-*a*][1,4]diazepine) is a triazole analogue of the benzodiazepine flubromazepam. Flubromazolam is composed of a benzene ring fused to a seven-membered 1,4-diazepine ring that is also fused to a 1,2,4 triazole ring. An alkyl methyl ($-CH_3$) is attached at the 1-position of the triazole ring, a 2-fluorophenyl ring is attached at the 6-position of the diazapine ring, and a bromine is attached at the 8-position of the benzene ring. Flubromazolam has a molecular formula of $C_{17}H_{12}BrFN_4$ and a molecular weight of 371.21 g/mol. The structure of flubromazolam is shown below:



Pharmacology

Flubromazolam, similar to schedule IV benzodiazepines (such as alprazolam, clonazepam, diazepam), binds to the benzodiazepine receptors with high affinity and efficacy. Flubromazolam possesses central nervous system depressant effects, such as anxiolytic, anticonvulsant, sedative-hypnotic and muscle relaxant effects. The recreational use of flubromazolam may result in prolonged, severe intoxication associated with coma, hypotension, and rhabdomyolysis (a breakdown of muscle tissue leading to release of dangerous protein into the bloodstream).

According to a published case report in which a 44 year-old investigator (weighing 75 kg) orally ingested a low dose (0.5 mg/day) of flubromazolam, sedative-hypnotic effects as well as muscle relaxant effects occurred 90 minutes following drug intake. Drowsiness occurred approximately three hours post-drug ingestion, and lasted for five hours. Intoxication due to flubromazolam is characterized by excessive drowsiness, partial amnesia and inability to follow or participate in conversation. Peak serum concentration of flubromazolam is reached approximately 5 hours (7.4 ng/mL) after administration with a second peak occurring after 8 hours (8.6 ng/mL), making it a long-acting benzodiazepine. In a single-dose pharmacokinetic study in humans, 30 hours following flubromazolam ingestion, a re-emergence of sedative effects was observed.

User Population

Flubromazolam is used as a recreational substance in the United States. It is abused by a broad range of groups including youths, young adults, and older adults.

Illicit Distribution

Flubromazolam can be purchased via the internet and at local retail shops. It has been identified in PEZ-like pills or tablets. The National Forensic Laboratory Information System (NFLIS) is a DEA database that collects scientifically verified data on drug items and cases submitted to and analyzed by state, local, and federal forensic laboratories. According to NFLIS, the number of flubromazolam drug reports increased from 14 in 2015 to 27 in 2016 and, has continued to increase to 261 in 2017. In 2018, there were 398 reports of flubromazolam in the NFLIS database.

The National Poison Data System (NPDS) of the American Association of Poison Control Centers (AAPCC) by members of the public and health care providers reported no flubromazolam single substance exposures in 2014 and 2015, 2 exposures in 2016 and 11 in 2017. In 2017, the UNODC Early Warning Advisory on Novel Psychoactive Substances mentioned flubromazolam in its report.

Control Status

Flubromazolam is not currently controlled under the Controlled Substances Act.

Comments and additional information are welcomed by the Drug and Chemical Evaluation Section; Fax 202-353-1263, telephone 202-307-7183, and Email DPE@usdoj.gov.