

PB-22 and 5F-PB-22

March 2020

Introduction:

PB-22 and 5F-PB-22 are two synthetic cannabinoids recently encountered on the designer drug market. Both PB-22 and 5F-PB-22 have been found laced on plant material and marketed under the guise of herbal incense products.

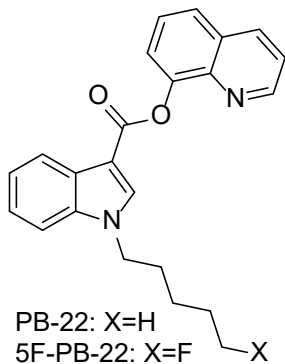
In response to State and Federal control of JWH-018 and other synthetic cannabinoids, a transition to new synthetic cannabinoids laced on plant material has been observed.

Licit Uses:

PB-22 and 5F-PB-22 were not previously reported prior to their appearance on the designer drug market. There are no commercial or medical uses for these substances.

Chemistry:

PB-22 and 5F-PB-22 are also known as quinolin-8-yl 1-pentyl-1H-indole-3-carboxylate and quinolin-8-yl 1-(5-fluoropentyl)-1H-indole-3-carboxylate, respectively. Their chemical structures are shown below.



Pharmacology:

Studies show that PB-22 and 5F-PB-22 bind to and are agonists at the CB1 receptor. In drug discrimination studies in rats, PB-22 and 5F-PB-22 generalized to Δ^9 -THC, i.e. produced subjective effects similar to those of Δ^9 -THC. There are no published studies on the safety of PB-22 or 5F-PB-22 for human use.

Illicit Uses:

PB-22 and 5F-PB-22 have been encountered in numerous herbal products that are smoked for their psychoactive effects.

User Population:

Information on user population in the U.S. is limited, and includes information from drug user internet forums and case reports. PB-22 and 5F-PB-22 abuse is not monitored by any national drug abuse surveys. Poison control centers continue to report adverse health effects in response to the abuse of herbal incense products and this abuse is both a public health and safety concern.

Illicit Distribution:

The System to Retrieve Information from Drug Evidence (STRIDE)/STARLiMS, a federal database for the seized drugs analyzed by DEA forensic laboratories, and the National Forensic Laboratory Information System (NFLIS), a system that collects drug analysis information from state, local, and federal forensic laboratories contain 1,978 reports for PB-22 and 1,978 reports for 5F-PB-22 in 2013; that has decreased significantly to 30 and 8 reports, respectively, in 2017, and to 7 and 5 reports, respectively, for 2018. Bulk quantities and plant material (herbal incense products) laced with PB-22 and 5F-PB-22 have been encountered. Medical examiner and postmortem toxicology reports demonstrate the involvement of 5F-PB-22 in the death of at least five individuals.

Control Status:

PB-22 and 5F-PB-22 are schedule I controlled substances under the Federal Controlled Substances Act.

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