



## Synthetic Cathinones - DEA Request for Information

The sudden appearance of synthetic cathinones (see list below) on the designer drug market in the United States is of great concern.

- **MDPV** *synonym* 3,4-methylenedioxypropylvalerone
- **Mephedrone** *synonyms* 4-methylmethcathinone, 4-MMC
- **Methylone** *synonyms* 3,4-methylenedioxymethcathinone, MDMC
- **Naphyrone** *synonyms* naphthylpyrovalerone, NRG-1
- **4-Fluoromethcathinone** *synonyms* 4-FMC, flephedrone
- **3-Fluoromethcathinone** *synonym* 3-FMC
- **Methedrone** *synonyms* 4-methoxymethcathinone, bk-PMMA, PMMC
- **Butylone** *synonyms* bk-MBDB, beta-keto-N-methylbenzodioxolylpropylamine

Although these substances are new to the United States' drug market, they have been popular in Europe since 2007. These substances are falsely marketed as "research chemicals," "plant food," or "bath salts." They are sold at smoke shops, head shops, convenience stores, adult book stores, and gas stations and can also be purchased on the Internet. These substances are manufactured in the form of capsules, tablets, and powders. The packages of these commercial products usually contain the warning "not for human consumption" most likely in an effort to circumvent statutory restrictions for these substances. Some of the products found to contain synthetic cathinones include, but are not limited to: Ivory Wave, Vanilla Sky, Energy 1, Explosion, Meow Meow, Bubbles, and others.

Evidence from law enforcement and poison control centers indicates that the use of these substances appears to be widespread and is growing. The American Association of Poison Control Centers reported that in 2010, poison centers took 298 calls about synthetic cathinones. As of March 2011, poison control centers have received 1,241 calls relating to these products for this year. These calls were received in poison centers in 47 states and the District of Columbia. In 2009, the National Forensic Information System (NFLIS) received 14 reports of analyzed seizures from 8 states related to these substances. However, in 2010, there were 290 reports of analyzed seizures from 21 states related to these substances reported to NFLIS. Thirteen states including Alabama, Florida, Hawaii, Idaho, Kentucky, Louisiana, Michigan, Mississippi, North Carolina, North Dakota, Utah, Virginia, and Wyoming Florida, Louisiana, North Dakota, and have passed laws to control all or many of these synthetic cathinones.

MDPV and mephedrone are psychoactive chemicals that are structurally related to the schedule I stimulants, cathinone, with a ring-bearing substituent group, and methcathinone, respectively. Cathinone derivatives including those which bear ring-group substituents have been reported to induce subjective effects similar to those induced by cocaine, amphetamine, 3,4-methylenedioxymethamphetamine (MDMA), and methcathinone. MDPV and mephedrone

are not scheduled under the Controlled Substances Act (CSA). However, law enforcement cases involving synthetic cathinones can be prosecuted under the Controlled Substances Analogue Enforcement Act if the synthetic cathinone meets the definition of a “controlled substance analogue.”

Methylone is psychoactive chemical that is structurally and pharmacologically similar to the schedule I substance MDMA. Methylone is not scheduled under the CSA. Naphyrone, 4-fluoromethcathinone, 3-fluoromethcathinone, methedrone, and butylone are not scheduled under the CSA, but they have been identified by U. S. Drug Courts in drug screens or in the International drug market.

These substances are popular with youths in urban environments with males appearing to use synthetic cathinones more than females. The most common routes of administration are inhalation by snorting the powder and ingestion by taking capsules or tablets. The powder can also be injected or swallowed. Abusers report effects occurring a few minutes to 15 minutes after administration, depending on the route of administration, and the effects can last up to 3 hours

The Drug and Chemical Evaluation Section (ODE) of the DEA Office of Diversion Control continues to gather information on the pharmacology, toxicity, and abuse of synthetic cathinones and products containing these substances to support possible scheduling of these substances. ODE would greatly appreciate any information related to law enforcement encounters, drug identification, toxicology reports, medical examiner reports, and abuse related to these synthetic cathinones. This includes, but is not limited to, any information associated with the biological response occurring from episodes, data describing toxic effects from exposure to these substances occurring in humans or animals, toxicology reports, risk assessments, identification of these substances to establish prevalence and trends, and suspicion of poisonings connected to patients or postmortem samples. Information that connects these substances to adverse health effects is of particular interest and would provide valuable assistance in the evaluation of these substances for a federal control action.

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