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Office of National Drug Control Policy

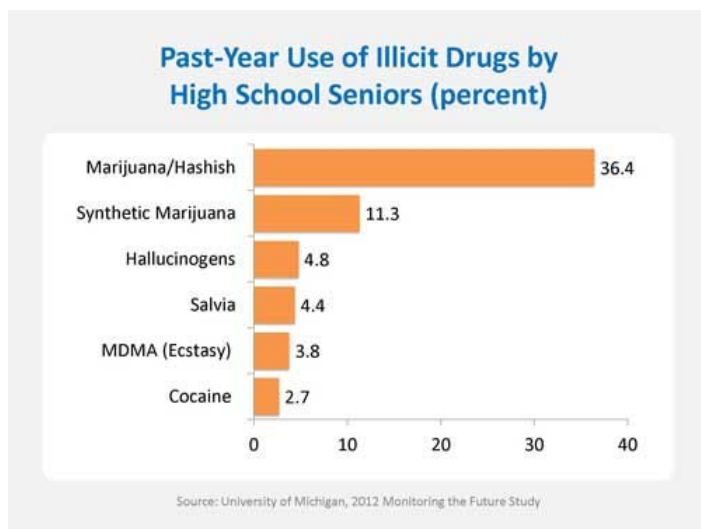
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## Synthetic Drugs (a.k.a. K2, Spice, Bath Salts, etc.)

### Overview and History

- Synthetic cannabinoids, commonly known as "synthetic marijuana," "K2," or "Spice", are often sold in legal retail outlets as "herbal incense" or "potpourri", and synthetic cathinones are often sold as "bath salts" or "jewelry cleaner". They are labeled "not for human consumption" to mask their intended purpose and avoid Food and Drug Administration (FDA) regulatory oversight of the manufacturing process.
- Synthetic cannabinoids are man-made chemicals that are applied (often sprayed) onto plant material and marketed as a "legal" high. Users claim that synthetic cannabinoids mimic  $\Delta^9$ -tetrahydrocannabinol (THC), the primary psychoactive active ingredient in marijuana.
- Use of synthetic cannabinoids is alarmingly high, especially among young people. According to the 2012 Monitoring the Future survey of youth drug-use trends, one in nine 12th graders in America reported using synthetic cannabinoids in the past year. This rate, unchanged from 2011, puts synthetic cannabinoids as the second most frequently used illegal drug among high school seniors after marijuana (see chart).
- Synthetic cathinones are man-made chemicals related to amphetamines. Synthetic cathinone products often consist of methylenedioxypropylvalerone (MDPV), mephedrone, and methylene.
- The Administration has been working with Federal, Congressional, state, local, and non-governmental partners to put policies and legislation in place to combat this threat, and to educate people about the tremendous health risk posed by these substances.

Figure 1: Use of Illicit Drugs among Twelfth Graders, 2012 Monitoring the Future Study



### A Rapidly Emerging Threat

- Synthetic cannabinoids laced on plant material were first reported in the U.S. in December 2008, when a shipment of "Spice" was seized and analyzed by U.S. Customs and Border Protection (CBP) in Dayton, Ohio.
- There is an increasingly expanding array of synthetic drugs available. 51 new synthetic cannabinoids were

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identified in 2012, compared to just two in 2009. Furthermore, 31 new synthetic cathinones were identified in 2012, compared to only four in 2009. In addition, 76 other synthetic compounds were identified in 2012, bringing the total number of new synthetic substances identified in 2012 to 158.

## Risk to the Public Health

- The contents and effects of synthetic cannabinoids and cathinones are unpredictable due to a constantly changing variety of chemicals used in manufacturing processes devoid of quality controls and government regulatory oversight.
- Health warnings have been issued by numerous public health authorities and poison control centers describing the adverse health effects associated with the use of synthetic drugs.
- The effects of synthetic cannabinoids include severe agitation and anxiety, nausea, vomiting, tachycardia (fast, racing heartbeat), elevated blood pressure, tremors and seizures, hallucinations, dilated pupils, and suicidal and other harmful thoughts and/or actions.
- Similar to the adverse effects of cocaine, LSD, and methamphetamine, synthetic cathinone use is associated with increased heart rate and blood pressure, chest pain, extreme paranoia, hallucinations, delusions, and violent behavior, which causes users to harm themselves or others.

## Sources and Continuing Availability

- According to CBP, many synthetic cannabinoid and cathinone products originate overseas. Law enforcement personnel have also encountered the manufacture of synthetic drugs in the U.S., including in residential neighborhoods.
- Synthetic drugs are often sold at small retail outlets and are readily available via the Internet. The chemical compositions of synthetic drugs are frequently altered in an attempt to avoid government bans.

## Government Efforts to Ban Synthetic Drug Products

- Congress has taken steps to ban many of these substances at the Federal level, and the Administration has supported such efforts.
- The Synthetic Drug Abuse Prevention Act is part of the FDA Safety and Innovation Act of 2012, signed into law by President Obama. The law permanently places 26 types of synthetic cannabinoids and cathinones into Schedule I of the Controlled Substances Act (CSA). It also doubled the maximum period of time that the Drug Enforcement Administration (DEA) can administratively schedule substances under its emergency scheduling authority, from 18 to 36 months.
- The Controlled Substance Analogue Enforcement Act of 1986 allows many synthetic drugs to be treated as controlled substances if they are proven to be chemically and/or pharmacologically similar to a Schedule I or Schedule II controlled substance.
- In 2011, DEA exercised its emergency scheduling authority to control five types of synthetic cannabinoids, and three of the synthetic substances used to manufacture synthetic cathinones. In 2012, all but one of these substances were permanently designated as Schedule I substances under the Synthetic Drug Abuse Prevention Act, and the remaining substance was permanently placed into Schedule I by DEA regulation.
- On April 12, 2013, DEA used its emergency scheduling authority to schedule three more types of synthetic cannabinoids, temporarily designating them as Schedule I substances.
- At least 43 states have taken action to control one or more synthetic cannabinoids. Prior to 2010, synthetic cannabinoids were not controlled by any State or at the Federal level. In addition, at least 44 states have taken action to control one or more synthetic cathinones.

## Resources

- Drug Enforcement Administration: <http://www.justice.gov/dea/divisions/hq/2013/hq062613.shtml>
- National Institute on Drug Abuse: <http://www.drugabuse.gov/infofacts/Spice.html>
- American Association of Poison Control Centers: <http://www.aapcc.org/dnn/default.aspx>
- Congressional Research Service: <http://www.fas.org/sgp/crs/misc/R42066.pdf>
- National Conference of State Legislators: <http://www.ncsl.org/issues-research/justice/synthetic-drug-threats.aspx>