

MEMORANDUM

July 16, 2013

TO: Health and Human Services Committee
Public Safety Committee

FROM: Linda McMillan, Senior Legislative Analyst *LMM*
Susan Farag, Legislative Analyst *SFF*

SUBJECT: **Discussion: K-2/Spice (Synthetic Marijuana)**

At this session, the joint Committee will hear from representatives from the Montgomery County Police Department, Department of Health and Human Services, State's Attorney's Office, and the Collaboration Council for Children, Youth and Families about what constitutes synthetic marijuana, trends regarding usage, how synthetic marijuana affects people and its health risks, current law and issues regarding enforcement, and the Montgomery County Alliance for Youth Substance Abuse Prevention (which is a program of the Collaboration Council).

Background

Synthetic marijuana is sold under a variety of names including K-2 and Spice. Attached at © 5-6 is a brief from the National Institute on Drug Abuse. It says that synthetic marijuana refers to a wide variety of herbal mixtures that produce experiences similar to marijuana. It further notes that while these products often claim they are natural, chemical analyses show that their active ingredients are synthetic compounds. They are marketed as safe and legal alternatives to marijuana. A 2012 University of Michigan survey included in the brief shows that 11.3% of high school seniors reported using synthetic marijuana during the previous year.

While users report experiences similar to those of marijuana, in some cases there are stronger reported effects including extreme anxiety, paranoia, and hallucinations. Spice abusers that have been taken to Poison Control Centers report symptoms such as rapid heart rate, vomiting, confusion, and blood pressure changes. There have been a few reports of heart attacks.

Attached at ©7-18 is a series of briefs from the University of Maryland's Center for Substance Abuse Research (CESAR) about synthetic marijuana. The CESAR information includes results from a study of University of Florida students showing that about 8% have used synthetic marijuana; but of those there is a very high use of marijuana (91%), hookah (88%), and cigarettes (77%).

From a health perspective the information at ©15 indicates that in 2010 there were 11,406 emergency room visits nationwide for synthetic marijuana and that 3/4 of the patients were aged of 12 to 29 and in 59% of the cases this was the only drug involved. In February of 2013, the Centers for Disease Control issued an alert that acute kidney injury following exposure to synthetic marijuana had been identified in six states (©14). The median age of patients was 18.5 years old.

Presentations and Discussion

Council staff suggests that the joint Committee begin with a presentation from the **Montgomery County Police Department** which will touch on the definition, effect, and legality of synthetic marijuana. Council staff has asked the Police Department representatives to discuss the following with the joint Committee:

- What are the Police Department's observations about the prevalence of use of synthetic marijuana?
- Have there been any arrests for possession of synthetic marijuana in 2012 or 2013?
- What is approach for finding retail outlets that are selling synthetic marijuana? What approach is taken with retailers who are found to be selling these substances?
- Have there been any arrests of retailers for selling synthetic marijuana?
- What are impediments to enforcement? Are there any actions the Police Department would like to see the County take to address this problem?
- Are current Federal and State laws adequate to address this issue?

A copy of the Fiscal and Policy Note and the bill that was signed by the Governor, Criminal Law-Cannabimimetic Agents-Prohibition, is attached at ©19-31.

Council staff has asked the **Department of Health and Human Services** to comment on the following questions and their responses are attached at ©1-2.

- What are Health and Human Services' observations about the prevalence of the use of synthetic marijuana? Please provide the joint Committee with an understanding of the health dangers of synthetic marijuana, particularly how they may be different and more dangerous than the health effects of marijuana.
- Does HHS have any data related to the prevalence of use either from SASCA screenings or calls for information or services?
- If an individual or parent contacted DHHS for treatment services for someone using synthetic marijuana, what services are available?

- The CESAR information has data on Emergency Department visits involving synthetic marijuana. Is there data available for Montgomery County?
- Several states have reported acute kidney injury associated with the use of synthetic marijuana. Is Maryland or Montgomery County monitoring this issue? Would hospitals report these types of incidents?
- Are there any actions that Health and Human Services would like to see the County take to address this problem?

One of the interesting points in the response is that the Adult Drug Court is now testing for K-2 and that the initial testing in 2010 showed about 10% of participants tested positive. This is now down to 1%. One of the reasons noted in the NIDA information for using K-2 is that it is believed that it will not show up in drug tests. Also, DHHS did look to see if there was a way to look at emergency room visits and notes that there is no specific code for tracking, but that there were 170 emergency department visits in 2011 poisoning by unspecified psychodysleptics. The responses say that the current state of the problem suggests that screening and assessment for synthetic marijuana abuse should be a part of routine screening practice.

Council staff has asked the **State's Attorney's Office** to comment on the following questions:

- How many cases has the State's Attorney's Office handled in 2012 and 2013 regarding possession or sale of synthetic marijuana?
- Would a first time offender for possession be eligible for a diversion program that might be available to someone arrested for the first time for possession of marijuana?
- Are current Federal and State laws adequate to address this issue?
- Are there any actions that the State's Attorney's Office would like to see the County take to address this problem?

The **Collaboration Council** has been awarded a contract by the Department of Health and Human Services to “create a coalition to address underage use or abuse of alcohol, tobacco, and other drugs.” A summary of this effort is attached at ©4. Synthetic marijuana is one of the other drugs that would be a part of the assessment and potential of some of the activities. Council staff has asked that the joint Committee be provided with an overview of this effort.

HHS Hearing on Synthetic Marijuana July 18, 2013

Health and Human Services:

1. What are Health and Human Services' observations about the prevalence of the use of synthetic marijuana? Please provide the joint Committee with an understanding of the health dangers of synthetic marijuana, particularly how they may be different and more dangerous than the health effects of marijuana.

Health effects:

The documents provided by Council staff are good summaries of the health dangers of synthetic marijuana (K-2/Spice) which are significantly different from those for cannabis. The DEA banned 15 synthetic cannabinoids in 2012, citing numerous calls to poison control center around the nation, but newer generation compounds continue to emerge leading to the broad language in the federal and state legislation. These substances seem to be four to one hundred times stronger than marijuana, but targeting the same brain receptor sites. Users indicate the high comes on slowly at first, then with surprising potency. There have been many reports about the adverse effects including agitation, rapid heart rate, confusion, dizziness and nausea. Short term effects include loss of control, lack of pain response, increased agitation, pale skin, seizures, vomiting, profuse sweating, uncontrolled / spastic body movements, elevated blood pressure, heart rate and palpitations. The onset of this drug is 3-5 minutes, and the duration of the high is 1-8 hours. In addition to physical signs of use, users may experience: dysphoria, severe paranoid delusions, hallucinations and increased agitation. There is a potential for addiction and this family of substances has caused kidney failure in some individuals.

Prevalence:

Montgomery County's experience is similar to that being reported nationally. The product (or family of substances) is being used at a relatively low rate, but with a worrisome higher rate of experimentation among adolescents (The survey of high school seniors by CESAR reported that 11.4% had used K-2 once in the last year) who apparently find it disturbingly easy to obtain. Alcohol remains far and away the most widely abused substance, with marijuana second. Because of its relatively recent emergence as a drug of abuse and the high cost of testing for it, HHS and other health care providers do not routinely test patients for K-2.

One additional indicator of prevalence of synthetic marijuana use in one part of the population is recent experience with the HHS Adult Drug Court program which does test participants' urine weekly for K-2 (using special justice system funding). In 2010, the Program began testing Drug Court clients for K-2, and approximately 10% of the participants tested positive for the substance. Since that initial period of testing for K-2, the prevalence is down to less than 1% among Drug Court clients.

2. Does HHS have any data related to the prevalence of use either from SASCA screenings or calls for information or services?

SASCA does not collect this data systematically, but some teens report experimenting with K-2, with or without use of marijuana. Again, we do not have good prevalence data since our testing has been so limited.

3. If an individual or parent contacted DHHS for treatment services for someone using synthetic marijuana, what services are available?

All licensed addictions services providers can and should be able to treat abuse of this drug, whether at the detox or outpatient services level of care. Services at private providers are funded through an individual's or family's medical insurance or Medicaid. Uninsured clients may receive services through the County HHS' continuum of services, entering via Access to Behavioral Health Services.

4. The CESAR information has data on Emergency Department visits involving synthetic marijuana. Is there data available for Montgomery County?

There are no specific ICD-9-CM codes for synthetic marijuana use, however, BHCS and PH staff reviewed Emergency Department visit data to try to answer the question. To do so, the following codes were identified which providers use to code such synthetic marijuana use:

- ICD-9-CM code 969.6 (poisoning by psychodysleptics [marijuana (derivatives)])
- palpitations, seizure, and/or anxiety
- and E-code E854.1 (accidental poisoning by psychodysleptics [marijuana (derivatives)])
- Others use 305.9x codes for poisoning.

Looked at this way, there are 170 ED visits identified using ICD-9-CM code 969.6 or 305.9x which might include possible K2 use cases as well as other poisoning cases caused by unspecified substances in Montgomery County in calendar year 2011. Due to the lack of guidelines on medical coding of synthetic marijuana use, the ED visit/utilization data reported by MC hospitals is not sufficient for us to report on accurate number of K2 cases in the County. However, clearly, unless it is monitored by a surveillance system, the current system used by ERs does not seem to provide sufficient information for us to clearly capture the extent of K2 use in the County. In attempting to understand the prevalence of the abuse of this substance, It is also worth noting the national upswing of reports to poison call centers of exposure to synthetic marijuana during 2011 and 2012 which has receded this calendar year.

5. Several states have reported acute kidney injury associated with the use of synthetic marijuana. Is Maryland or Montgomery County monitoring this issue? Would hospitals report these types of incidents?

Related to the previous question, there is no tracking system monitoring acute kidney failure cases caused by K-2. There were only 29 cases of acute kidney failure NOS at Emergency Departments in the County in 2011. However, hospital ER utilization data does not have the ability to capture both the K2 and subsequent acute kidney failure.

6. Are there any actions that Health and Human Services would like to see the County take to address this problem?

The current state of the problem suggests that behavioral health providers move to include screening and assessment for synthetic marijuana abuse as part of routine practice. Within HHS, this means that BHCS programs would modify procedures to routinely ask about K-2 use. BHCS can encourage/require our contractors and other providers in the community to make similar changes.

While testing for K-2 could be more readily available it is, at present, a costly proposition. There are only a few laboratories in the country with the technology to test for K-2. The proprietary nature of these tests means testing can be quite expensive. DOCR and HHS BHCS use Redwood Toxicology Laboratory in Santa Rosa, California at a cost of \$30 per test. Given that this is a drug that is being actively experimented with among adolescents that would be the logical starting point for testing of K-2 as well as synthetic opioids.

BHCS, MPD, MCPS and others continue to offer substance abuse prevention training, education to youth, families and communities. Our prevention programs are currently funded through the State (ADAA) and are consequently limited in scope and guided by State requirements.

The county with MCPS should expand its prevention activities to make parents and students more aware of substance abuse in the schools and communities.

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MANY VOICES FOR SMART CHOICES

Montgomery County Alliance for Youth Substance Abuse Prevention

PURPOSE

In January 2013, Montgomery County Department of Health and Human Services awarded a contract to the Montgomery County Collaboration Council for Children, Youth and Families, Inc. to

- Create a Coalition to address underage use or abuse of alcohol, tobacco and other drugs (building on prior Drawing the Line Coalition)
- Deliver activities that align with the Substance Abuse Prevention Framework for Montgomery County which are to be designed to
 - Address change in the social environment by promoting community norms and public policies that decrease substance abuse
 - Promote effective prevention programs and services by enhancing skills of/and education direct service providers, policy makers and relevant others throughout the County
 - Reduce risk factors and increase protective factors among youth and families by providing substance abuse prevention, education, outreach programs and services to County residents.
- Funding comes from the Maryland Alcohol and Drug Abuse Administration (\$126,561) and Montgomery County government (\$19,000)

MEMBERSHIP

- The Alliance seeks to be inclusive of all organizations, neighborhood coalitions, and community members who are concerned about alcohol, tobacco and other drugs (ATOD) and our youth.
- Current members represent: MCPS, MCPD, DHHS, DLC, SAO, Keeping It SAFE Coalition, Montgomery College, Brave and Bold Coalition, Heroin Action Coalition, City of Rockville Youth Services, YMCA Youth and Family Services, Family Services, Inc.-GUIDE Programs, Adventist Behavioral Health, Community of Concern, and several community advocates.

ACTIVITIES

- Produce a "Scope of the Problem" report which includes a resource inventory
- Create a logic model/theory of change under which to organize the many activities/resources
- Develop a website to be a clearinghouse and communications medium
- Co-sponsor a Fall Forum with MCPS and DHHS
- Hold a student commercial video contest
- Award Under 21 Mini-grants
- Deliver parent and youth education programs, including the Strengthening Families Program
- Build youth voice and role
- Develop a community-specific underage drinking prevention coalition (additional ADAA funding)

MORE INFORMATION: carol.walsh@collaborationcouncil.org; meg.baker@collaborationcouncil.org

Drug Facts

www.drugabuse.gov

Spice (Synthetic Marijuana)

“Spice” refers to a wide variety of herbal mixtures that produce experiences similar to marijuana (cannabis) and that are marketed as “safe,” legal alternatives to that drug. Sold under many names, including K2, fake weed, Yucatan Fire, Skunk, Moon Rocks, and others—and labeled “not for human consumption”—these products contain dried, shredded plant material and chemical additives that are responsible for their psychoactive (mind-altering) effects.

False Advertising

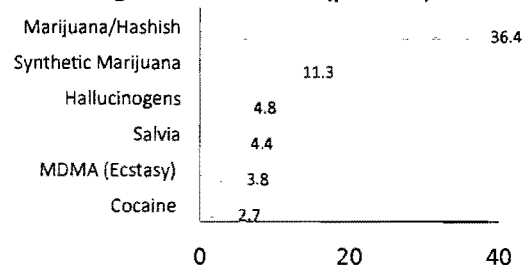
Labels on Spice products often claim that they contain “natural” psychoactive material taken from a variety of plants. Spice products do contain dried plant material, but chemical analyses show that their active ingredients are *synthetic* (or designer) cannabinoid compounds.

For several years, Spice mixtures have been easy to purchase in head shops and gas stations and via the Internet. Because the chemicals used in Spice have a high potential for abuse and no medical benefit, the Drug Enforcement Administration (DEA) has designated the five active chemicals most frequently

found in Spice as Schedule I controlled substances, making it illegal to sell, buy, or possess them. Manufacturers of Spice products attempt to evade these legal restrictions by substituting different chemicals in their mixtures, while the DEA continues to monitor the situation and evaluate the need for updating the list of banned cannabinoids.

Spice products are popular among young people; of the illicit drugs most used by high-school seniors, they are second only to marijuana. (They are more popular among boys than girls—in 2012, nearly twice as many male 12th graders reported past-year use of synthetic marijuana as females in the same age group.) Easy access and the misperception that Spice products are “natural” and therefore harmless have likely contributed to their popularity. Another selling point is that the chemicals used in Spice are not easily detected in standard drug tests.

Past-Year Use of Illicit Drugs by High School Seniors (percent)



SOURCE: University of Michigan, 2012 Monitoring the Future Study

How Is Spice Abused?

Some Spice products are sold as “incense,” but they more closely resemble potpourri. Like marijuana, Spice is abused mainly by smoking. Sometimes Spice is mixed with marijuana or is prepared as an herbal infusion for drinking.



K2, a popular brand of “Spice” mixture.

How Does Spice Affect the Brain?

Spice users report experiences similar to those produced by marijuana—elevated mood, relaxation, and altered perception—and in some cases the effects are even stronger than those of marijuana. Some users report psychotic effects like extreme anxiety, paranoia, and hallucinations.

So far, there have been no scientific studies of Spice’s effects on the human brain, but we do know that the cannabinoid compounds found in Spice products act on the same cell receptors as THC, the primary psychoactive component of marijuana. Some of the compounds found in

Spice, however, bind more strongly to those receptors, which could lead to a much more powerful and unpredictable effect. Because the chemical composition of many products sold as Spice is unknown, it is likely that some varieties also contain substances that could cause dramatically different effects than the user might expect.

What Are the Other Health Effects of Spice?

Spice abusers who have been taken to Poison Control Centers report symptoms that include rapid heart rate, vomiting, agitation, confusion, and hallucinations. Spice can also raise blood pressure and cause reduced blood supply to the heart (myocardial ischemia), and in a few cases it has been associated with heart attacks. Regular users may experience withdrawal and addiction symptoms.

We still do not know all the ways Spice may affect human health or how toxic it may be, but one public health concern is that there may be harmful heavy metal residues in Spice mixtures. Without further analyses, it is difficult to determine whether this concern is justified.

Learn More

For additional information on Spice, see http://www.emcdda.europa.eu/attachements.cfm/att_80086_EN_Spice%20The%20matic%20paper%20—%20final%20version.pdf

CESAR *FAX* →

A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

CESAR FAX Synthetic Cannabinoid Series

May 9, 2011 to May 20, 2013

(updated May 20, 2013)

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A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

DEA Temporarily Classifies Synthetic Marijuana as a Schedule I Drug

Synthetic marijuana packaged as incense or potpourri has spurred more than 4,500 "fake pot" calls to U.S. poison centers since 2010, prompting the Drug Enforcement Administration to recently temporarily classify it as a Schedule I drug.

What is synthetic marijuana? Synthetic marijuana is a blend of herbs and plant material sprayed with one or more synthetic cannabinoids, synthesized chemical compounds that bind to the same cannabinoid receptors as THC. Synthetic cannabinoids were originally created in a lab as potential pharmaceutical agents.

What are other names for synthetic marijuana? The most recognizable brand names are Spice and K2. More than 100 other brand names have been identified, including Blaze, Fire 'n' Ice, G-Force, Solar Flare, and Yucatan Fire.

Where is synthetic marijuana sold? Synthetic marijuana is packaged in small pouches or packets and sold as herbal incense or potpourri that is labeled "Not for Human Consumption." Until the recent DEA ban, it was legally sold in head shops, smoke shops, liquor stores, convenience stores, gas stations, and over the internet.

Who uses synthetic marijuana? Qualitative evidence suggests that the primary users are teenagers and young adults as well as cannabis users. According to the DEA, a major private toxicology laboratory reported that 30% to 35% of specimens submitted by juvenile probation departments were positive for synthetic marijuana.

What are the effects of synthetic marijuana use? Research as to the potency and side effects is new and limited. However, it appears that the psychoactive effects of synthetic marijuana are similar to marijuana, and there is some evidence that synthetic marijuana may even be more potent depending on the specific synthetic cannabinoid. Adverse effects include increased heart rate and blood pressure, extreme anxiety, agitation, disorientation, paranoia, hallucinations, vomiting, and tremors. There were 2,874 calls received by U.S. poison centers about synthetic marijuana products in 2010. As of April 20, 2011, 1,639 calls had been received in 2011.

Can you become dependent on synthetic marijuana? The limited research available to date indicates that synthetic marijuana may have the potential for dependence. There has been one documented case of dependency based on both DSM-IV and ICD-10 criteria, including tolerance and physical withdrawal symptoms. The European Monitoring Centre for Drugs and Drug Addiction suggests that "it seems tolerance to these synthetic cannabinoids may develop fairly fast, and arguably this might be associated with relatively high potential to cause dependence" (p. 12).

Can it be detected by drug tests? While synthetic marijuana will not be detected by standard drug tests that screen for marijuana, several national laboratories offer tests for synthetic cannabinoids.

What are the current laws regarding synthetic marijuana in the U.S.? As of May 4, 2011, 24 states have enacted legislation and 24 states have legislation pending banning one or more synthetic cannabinoids. In March 2011, the DEA temporarily classified five of the synthetic cannabinoids used in synthetic marijuana as Schedule I drugs, which is reserved for those substances with high potential for abuse, no accepted medical use for treatment in the U.S., and a lack of accepted safety use of the drug under medical supervision. This classification can last up to one year, with a 6-month extension, allowing the DEA and the U.S. Department of Health and Human Services time to determine whether these chemicals should be permanently controlled. Based on Europe's experience with regulating synthetic marijuana, it is possible that current laws will be circumvented by the production and use of new synthetic cannabinoids not covered by current legislation.

SOURCE: A complete list of sources is available by accessing the PDF version of this issue online at www.cesar.umd.edu.

CESAR FAX Volume 20, Issue 17 (May 9, 2011)

Source List

- “Schedules of Controlled Substances: Temporary Placement of Five Synthetic Cannabinoids into Schedule I,” *Federal Register* 76(40): 11075-11078, March 1, 2011.
- American Association of Poison Control Centers, “Fake Marijuana Spurs More Than 4,500 Calls to U.S. Poison Centers,” *Press Release*, April 20, 2011. Available online at <http://www.aapcc.org/dnn/Portals/0/prrel/revisekd2releaseapril20.pdf>.
- Atwood, B.K., Huffman, J., Straiker, A., Mackie, K., “JWH018, a Common Constituent of ‘Spice’ Herbal Blends, Is a Potent and Efficacious Cannabinoid CB Receptor Agonist,” *British Journal of Pharmacology*, 160(3):585-593, 2010.
- Dargan, P.I., Hudson, S., Ramsey, J., Wood, D.M. “The Impact of Changes in UK Classification of the Synthetic Cannabinoid Receptor Agonists in ‘Spice’,” *International Journal of Drug Policy*, April 7, 2011, doi:10.1016/j.drugpo.2011.02.006.
- Dresen, S., Kneisel, S., Weinmann, W., Zimmermann, R., Aüwarter, V. “Development and Validation of a Liquid Chromatography-Tandem Mass Spectrometry Method for the Quantitation of Synthetic Cannabinoids of the Aminoalkylindole Type and Methanandamide in Serum and Its Application to Forensic Samples,” *Journal of Mass Spectrometry*, 46:163-171, 2010.
- Drug Enforcement Administration, “Chemicals Used in ‘Spice’ and ‘K2’ Type Products Now Under Federal Control and Regulation,” *Press Release*, 3/1/2011. Available online at <http://www.justice.gov/dea/pubs/pressrel/pr030111.html>.
- Drug Enforcement Administration, Office of Diversion Control, *National Forensic Laboratory Information System (NFLIS) Year 2009 Annual Report*, 2010.
- Drug Enforcement Administration, Office of Diversion Control, *National Forensic Laboratory Information System (NFLIS) Year 2008 Annual Report*, 2009.
- European Monitoring Centre for Drugs and Drug Addiction, “Understanding the ‘Spice’ Phenomenon,” *Thematic Papers*, 2009.
- European Monitoring Centre for Drugs and Drug Addiction, *Annual Report 2010: The State of the Drugs Problem in Europe*, 2010.
- Müller, H., Sperling, W., Köhrmann, M., Huttner, H., Kornhuber, J., Maler, J-M. “The Synthetic Cannabinoid Spice as a Trigger for an Acute Exacerbation of Cannabis Induced Recurrent Psychotic Episodes,” *Schizophrenia Research*, 118(1-3): 309-310, 2010.
- National Conference of State Legislatures, *Legislation on Synthetic Cannabinoids as of May 4, 2011*, online at <http://www.ncsl.org/?TabId=22431>, accessed 5/6/2011.
- National Drug Court Institute, “Spice, K2, and the Problem of Synthetic Cannabinoids,” *Drug Court Practitioner Fact Sheet*, 6(1), 2010.

- National Drug Intelligence Center, U.S. Department of Justice, "Use of Synthetic Cannabinoid Products by Teens and Young Adults Increasing," *Drug Alert Watch*, 2010.
- Redwood Toxicology Laboratory, "Redwood Toxicology Laboratory Announces Oral Fluid Test for Synthetic Cannabinoids: JWH-018, JWH-073 and JWH-250," *Press Release*, November 15, 2010.
- Redwood Toxicology Laboratory, "Redwood Toxicology Laboratory Announces Urine Test for Marijuana Mimics: Synthetic Cannabinoids JWH-018 and JWH-073 Metabolites," *Press Release*, July 12, 2010.
- Schneir, A.B., Cullen, J., Ly, B.T., "'Spice' Girls: Synthetic Cannabinoid Intoxication," *The Journal of Emergency Medicine*, 40(3):296-299, 2011.
- U.S. Naval Criminal Investigative Service, Norfolk Field Office, *Introduction to Spice*, 2010.
- United States Drug Testing Laboratories, "USDTL Synthetic Cannabinoid Urine Test Stems from Increasing Illicit Use," *Press Release*, April 18, 2011.
- Vardakou, I., Pistos, C., Spiliopoulou, Ch. "Spice Drugs as a New Trend: Mode of Action, Identification and Legislation," *Toxicology Letters*, 197(3):157-16, 2010.
- Zimmerman, U. S., Winkelmann, M. P., Nees, J. A., Spanagel, R., Schulz, K., "Withdrawal phenomena and dependence syndrome after the consumption of 'spice gold'," *Deutsches Arzteblatt International*, 106(27):464-467, 2009.

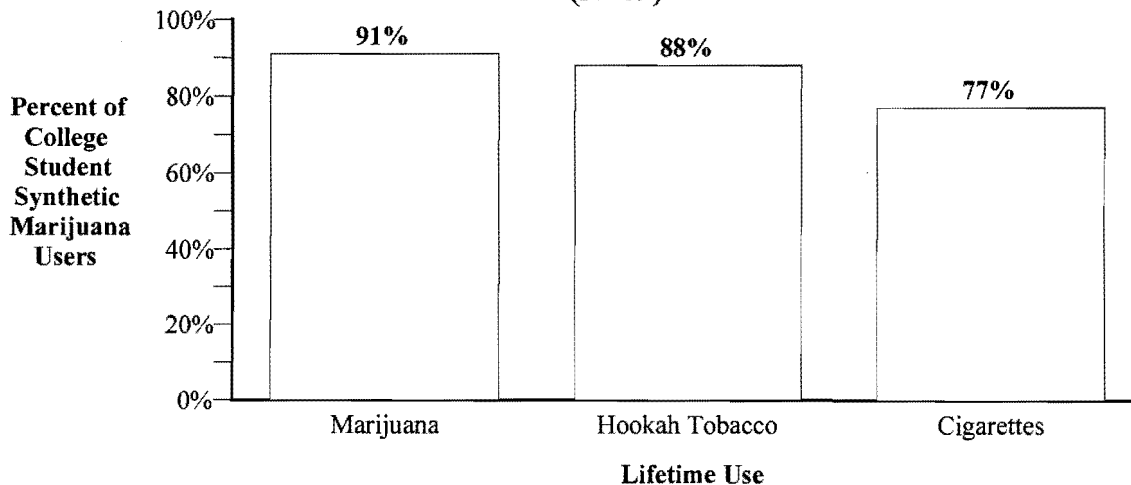
A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Nearly One in Ten College Students Have Ever Used Synthetic Marijuana; Nearly All Also Report Using Marijuana, Cigarettes, and Hookah

Nearly one in ten University of Florida college students (8%) reported ever using synthetic marijuana, according to the first study of lifetime prevalence of synthetic marijuana in college students. Synthetic marijuana, also known as K2 or spice, is an herbal blend sprayed with one or more synthetic cannabinoids with effects similar to marijuana when smoked (see *CESAR FAX*, Volume 20, Issue 17 to learn more about synthetic marijuana). Among these synthetic marijuana users, 77% reported smoking cigarettes, 91% reported smoking marijuana, and 88% reported smoking hookah tobacco. In addition, this study found that males and early college students (1st or 2nd year) were more likely to have ever used synthetic marijuana (data not shown). Unfortunately, “the latest national ban of five synthetic cannabinoids does not necessarily indicate the end of K2 or ‘spice’. For example, K2 manufacturers have already started to produce and sell a new generation of K2 products that are claimed to be ‘completely legal everywhere’ (using a similar product with another, not yet illegal, synthetic cannabinoid)” (p. 3).

Percentage of College Students Who Have Ever Used Synthetic Marijuana Who Also Reported Smoking Cigarettes, Marijuana, or Hookah Tobacco in Their Lifetime, 2010 (N=69)



NOTE: Data was collected from 852 University of Florida students who responded to an email survey conducted in September 2010.

SOURCE: Adapted by CESAR from Hu, X., Primack, B.A., Barnett, T.E., and Cook, R.L., “College Students and Use of K2: An Emerging Drug of Abuse in Young Persons,” *Substance Abuse Treatment, Prevention, and Policy* 6(16), 2011. Available online at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3142218>. For more information, contact Xingdi Hu at qmshjwhx@php.ufl.edu.

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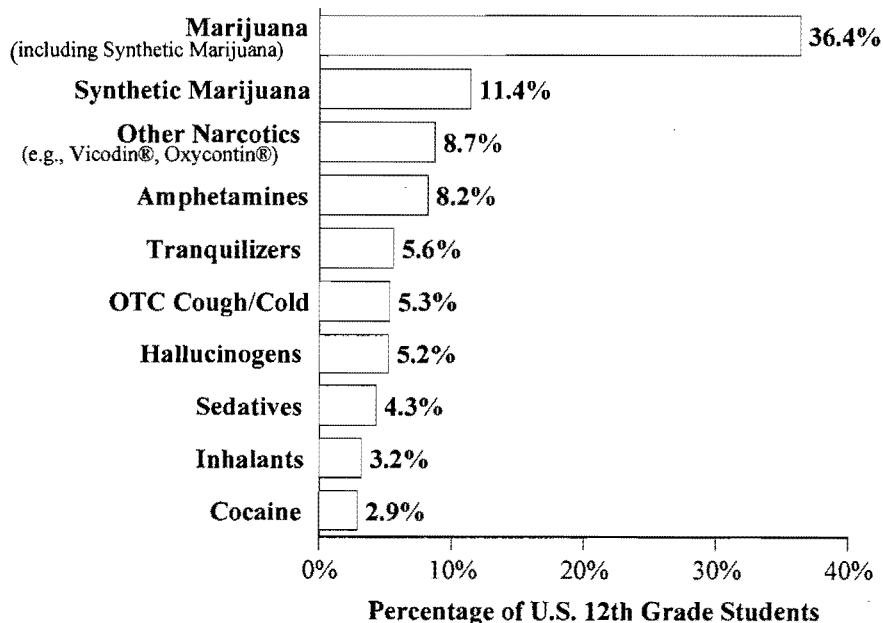
University of Maryland, College Park

One in Nine U.S. High School Seniors Report Using Synthetic Marijuana in the Past Year

Marijuana and synthetic marijuana are the most prevalent illicit drugs used by 12th graders, according to recent data from the 2011 Monitoring the Future (MTF) survey. Slightly more than one-third (36.4%) of high school seniors reported using marijuana in the past year, including 11.4% who reported using synthetic marijuana, compared with less than 10% for all other illicit drugs (see figure below). Synthetic marijuana, an herbal drug mixture that usually contains synthetic cannabinoids, was readily available on the internet and in smaller retail establishments until it was scheduled by the Drug Enforcement Administration (DEA) in March 2011 (see *CESAR FAX*, Volume 20, Issue 17, for more information about synthetic marijuana). Questions about synthetic marijuana use were included for the first time in the Spring 2011 MTF survey, and therefore measured use over a considerable period of time prior to the drug's scheduling. The authors note that "next year's survey results should reflect any effects of the scheduling by the DEA" (p. 5).

Percentage of U.S. 12th Grade Students Reporting Past Year Use of Drugs* Other Than Alcohol and Tobacco, 2011

(N=approximately 14,900)



*Amphetamines include Adderall® (6.5%), Ritalin® (2.6%), Provigil (1.5%), methamphetamine (1.4%), and crystal methamphetamine (1.2%). Hallucinogens include salvia (5.9%), ecstasy (5.3%), LSD (2.7%), and PCP (1.3%). Other narcotic drugs used nonmedically include Vicodin® (8.1%) and Oxycontin® (4.9%). OTC Cough/Cold refers to use for the explicit purpose of getting high. Drugs with less than 2% prevalence were ketamine (1.7%), GHB (1.4%), Rohypnol® (1.3%), steroids (1.2%), and heroin (0.8%).

SOURCE: Adapted by CESAR from National Institute of Drug Abuse, *Monitoring the Future: National Results on Adolescent Drug Use*, 2011. Available online at <http://www.monitoringthefuture.org/pubs/monographs/mtf-overview2011.pdf>.

A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

CDC Alert: Acute Kidney Injury Associated with Synthetic Marijuana Use in Six States

Acute kidney injury following exposure to synthetic cannabinoids has been identified in six states from March to December 2012, according to a recent report from the Centers for Disease Control and Prevention (CDC). Synthetic cannabinoids, also known as synthetic marijuana, K2, and Spice, are psychoactive substances chemically similar to the active ingredient in marijuana that are applied to plant material and smoked (see *CESAR FAX*, Volume 20, Issue 17). Prompted by hospitalizations in Wyoming for unexplained acute kidney injury after recent use of synthetic marijuana, a collaboration among several state public health officials, poison center toxicologists, forensic laboratory scientists, individual clinicians, and the Arkansas K2 Research Consortium identified 16 cases of synthetic marijuana-associated acute kidney injury in 6 states (Kansas, Oklahoma, Oregon, New York, Rhode Island, and Wyoming (see table below). All of the patients were admitted to the hospital, and five required hemodialysis, a treatment for kidney failure. None of the patients reported preexisting renal dysfunction or use of medication that might have caused renal problems. Earlier this month, doctors in Alabama reported four cases of acute kidney injury after ingestion of synthetic marijuana among previously health young men.* The CDC report suggests that “physicians caring for otherwise healthy adolescents and young adults with unexplained [acute kidney injury] should inquire about [synthetic marijuana] use, and cases of suspected [synthetic marijuana] poisoning should be reported to both the regional poison center and the appropriate state health department” (p. 97).

Sixteen Acute Kidney Injury Cases Associated with Synthetic Marijuana Use, March 16-December 7, 2012

State	Number of Cases	Ages (median 18.5 yrs)	Peak Creatinine (normal=0.6-1.2 mg/dL)	Implicated Product(s)
Kansas	1	26	7.7	Mr. Happy
Oklahoma	2	15	6.2-11.5	Flame 2.0
Oregon	6	15-27	4.7-10.6	synthetic cannabinoid; Mad Monkey or Clown Loyal; Lava
New York	2	30-33	3.3-9.0	Phantom Wicked Dreams; Spice Gold
Rhode Island	1	25	21.0	synthetic cannabinoid
Wyoming	4	15-21	4.1-6.8	synthetic cannabinoid; blueberry flavored; bubble gum flavored

*Bhanushali, G.K., Jain, G., Fatima, H., Leisch, L., Thornley-Brown, D., “AKI Associated with Synthetic Cannabinoids: A Case Series,” *Clinical Journal of the American Society of Nephrology*, published online before print December 2012. Online at <http://www.ncbi.nlm.nih.gov/pubmed/23243266>. Also see press release at <http://www.uab.edu/news/latest/item/3133-uab-doctors-synthetic-marijuana-dangerous-for-kidneys>

SOURCE: Adapted by CESAR from Centers for Disease Control and Prevention, “Acute Kidney Injury Associated with Synthetic Cannabinoid Use—Multiple States, 2012,” *Morbidity and Mortality Weekly Report (MMWR)*, 62(6): 93-98, 2012. Available online at <http://www.cdc.gov/mmwr/pdf/wk/mm6206.pdf>. For more information, contact Michael D. Schwartz at mschwartz@cdc.gov or 770-488-7282.

A Weekly FAX from the Center for Substance Abuse Research

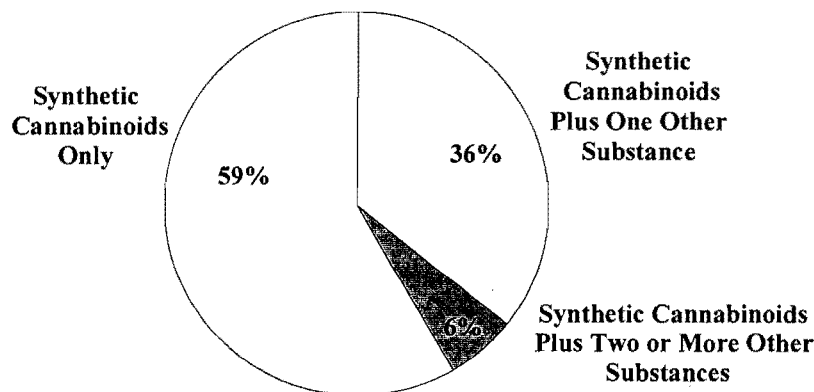
University of Maryland, College Park

Majority of U.S. Emergency Department Visits Involving Synthetic Cannabinoids Involve No Other Substances

An estimated 11,406 U.S. emergency department (ED) visits in 2010 involved a synthetic cannabinoid product¹, and three-fourths of these visits were made by patients ages 12 to 29, according to the most recent data available from the Drug Abuse Warning Network (DAWN). Synthetic cannabinoids, also referred to as synthetic marijuana, Spice, or K2, are substances designed to produce physical effects similar to marijuana (see *CESAR FAX*, Volume 20, Issue 17). In the majority (59%) of ED visits made by patients ages 12 to 29 that involved synthetic cannabinoids, no other substances were involved. Synthetic cannabinoid were used in combination with one other substance in 36% of the visits, and were used in combination with two or more substances in only 6% of visits² (see figure below). This is unusual in that the majority of ED visits involving other illicit drugs or the nonmedical use of pharmaceuticals also involve multiple drugs. For example, only 31% of ED visits involving marijuana were for marijuana alone; 69% involved other drugs (data not shown). The authors suggest that “educators can help prevent use of synthetic cannabinoids by addressing use of these substances in programs designed to prevent use of illicit drugs. Parents can also discuss the dangers of these drugs with their children and use parental controls for online purchases” (p. 3-4).

Estimated Percentage of U.S. Emergency Department Visits Involving Synthetic Cannabinoids Only or in Combination with Other Substances, Patients Ages 12 to 29, 2010

(N=8,557)



NOTE: Percentages add to more than 100 percent due to rounding

¹The 11,406 ED visits involving synthetic cannabinoids represent less than 1% of all ED visits. However, the authors note that “because of limited availability of tests for synthetic cannabinoids, data collection efforts in the ED may have missed visits in which they were involved” (p. 4).

²When other drugs were used with synthetic marijuana, they were most commonly marijuana (17%), pharmaceuticals (17%), and alcohol (13%).

SOURCE: Adapted by CESAR from data from Substance Abuse and Mental Health Services Administration (SAMHSA), “Drug-Related Emergency Department Visits Involving Synthetic Cannabinoids,” *The DAWN Report*, December 4, 2012. Available online at <http://www.samhsa.gov/data/2k12/DAWN105/SR105-synthetic-marijuana.pdf>.

CDC Reports Acute Kidney Injury Associated with Synthetic Marijuana Use in Six States

The Centers for Disease Control and Prevention (CDC) reports that acute kidney injury following exposure to synthetic cannabinoids has been identified in six states from March to December 2012. See *CESAR FAX*, Volume 22, Issue 7 for more information (available online at <http://www.cesar.umd.edu/cesar/cesarfax/vol22/22-07.pdf>).

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A Weekly FAX from the Center for Substance Abuse Research

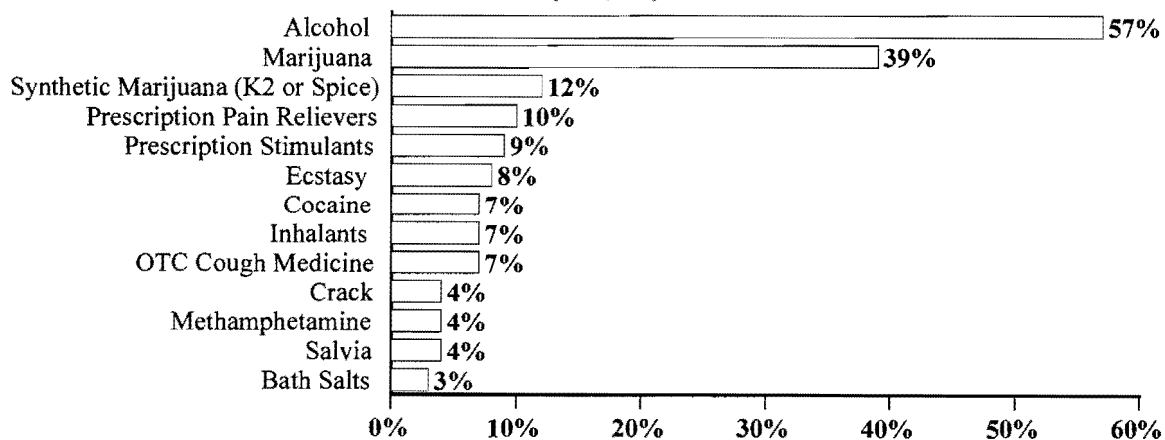
University of Maryland, College Park

Synthetic Marijuana Third Most Reported Substance Used by U.S. High School Students

More high school students report using synthetic marijuana than any other substance besides alcohol and marijuana, according to data from a recently released survey of 9th to 12th graders. Alcohol and marijuana were the most prevalent drug used, with 57% reporting alcohol use and 39% reporting marijuana use in the past year in 2012. The third most prevalent substance used was synthetic marijuana (12%), often referred to as K2 or Spice. Use of all other substances was reported by 10% or less of high school students. Similar results have been found by other surveys of high school students (see *CESAR FAX*, Volume 21, Issue 5).

Editor's Note: Synthetic marijuana products typically consist of plant material treated with synthetic cannabinoids, psychoactive substances designed to bind to and stimulate the same receptors in the brain as THC. Synthetic marijuana use in general has been linked with adverse effects such as increased heart rate and blood pressure, anxiety, agitation, and acute kidney injury (see CESAR FAX, Volume 20, Issue 17 and Volume 22, Issue 7). However, there are more than 140 different types¹ of synthetic cannabinoids, each with potentially different potency as well as adverse effects². The exact synthetic cannabinoids contained in synthetic marijuana products is impossible to determine without specific testing—studies have shown that the types and amounts of synthetic cannabinoids can vary greatly between products, lots, and even within the same package³. In reality, youth who report using synthetic marijuana likely have no idea what specific synthetic cannabinoid they are using or what the effects will be.

Percentage of U.S. Students (Grades 9 to 12) Reporting Past Year Alcohol and Other Drug Use, 2012 (N=3,884)



¹Hudson S, Ramsey J, "The Emergency and Analysis of Synthetic Cannabinoids," *Drug Testing and Analysis* 3(7-8):466-478, 2011.

²United Nations Office on Drugs and Crime, *Synthetic Cannabinoids in Herbal Products*, 2011. ³Hillebrand, J, et al., "Legal Highs on the Internet," *Substance Use and Misuse*, 45(3): 330-340, 2010.

NOTES: Abuse of inhalants and OTC cough medicine is defined as use to get high. Abuse of prescription drugs is defined as use without a doctor's prescription. Surveys were conducted in schools by GfK Roper Public Affairs & Corporate Communications with 3,884 9th to 12th grade students from February to June 2012.. The margin of error is +/- 2.1 percentage points.

SOURCE: Adapted by CESAR from The Partnership for a Drug-Free America and the MeLife Foundation, *The Partnership Attitude Tracking Study (PATS): Teens and Parents*, 2013. Available online at <http://www.drugfree.org/newsroom/research-publication/full-report-and-key-findings-the-2012-partnership-attitude-tracking-study-sponsored-by-metlife-foundation>.

A Weekly FAX from the Center for Substance Abuse Research

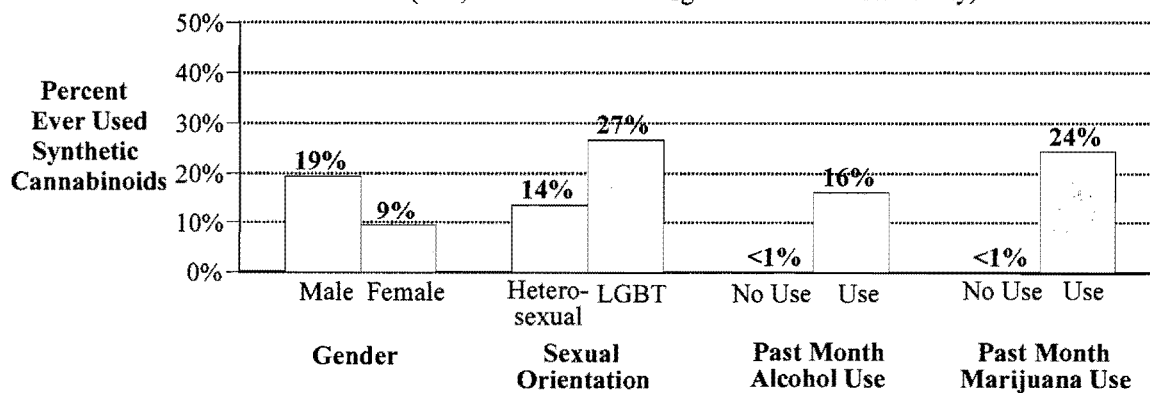
University of Maryland, College Park

Study Finds That 14% of Undergraduate Students at a Southeastern University Report Synthetic Cannabinoid Use; Users More Likely to Be Male and Identify as LGBT

Synthetic cannabinoid use among college students at a Southeastern university is concentrated in males and in the lesbian, gay, bisexual, or transgender (LGBT) community, according to the first known study to obtain a detailed profile of users of any type of synthetic cannabinoid.* Overall, 14% of undergraduate students reported lifetime use of synthetic cannabinoids, with an average initiation age of 18. Males were twice as likely as females (19% vs. 9%) to report synthetic cannabinoid use. Sexual orientation was also found to be related to synthetic cannabinoid use. Students who self-identified themselves as LGBT were nearly twice as likely as heterosexual students (27% vs. 14%) to report lifetime use (see figure below), and reported use was equally high among both male and female LGBT students (data not shown). The study also found that lifetime use of synthetic cannabinoids was virtually non-existent among those who did not report past month alcohol (0.3%) or marijuana (0.4%) use, compared to 16% and 24%, respectively, of past month users of these substances. According to the authors, “future research should investigate the higher use among [LGBT individuals], and prevention efforts may be most effective when reaching out to the LGBT community” (p. 6).

Editor’s Note: It is impossible to determine the types of synthetic cannabinoids contained in synthetic marijuana products without specific testing—studies have shown that the types and amounts of synthetic cannabinoids can vary greatly between products, lots, and even within the same package¹. In reality, youth who report using synthetic marijuana likely have no idea what specific synthetic cannabinoid they are using or what the effects will be.

Percentage of Undergraduate College Students Reporting Lifetime Synthetic Cannabinoid Use, by Gender, Sexual Orientation, and Past Month Alcohol or Marijuana Use, 2011-2012
(n=2,349 students at a large Southeastern University)



*According to the authors, their study “provides the first detailed profile of synthetic cannabinoid users from a random sample of young adults” that was “not limited to one of a few forms of synthetic cannabinoids, but instead asked about any of the compounds in that category” (p. 4). Respondents were asked if they had “used any synthetic marijuana (K2, Spice, Mr. Miyagi, Pot-Pourri, etc.) ever or in the last year” (p. 2). The survey “utilized the term ‘synthetic marijuana’ rather than the more scientific ‘synthetic cannabinoid’ since that language would be better understood by respondents” (p. 6).

¹e.g., Hillebrand, J, et al., “Legal Highs on the Internet,” *Substance Use and Misuse*, 45(3): 330-340, 2010.

NOTES: Data were collected from a self-report survey administered to 2,349 undergraduate students in 40 classes at a large public university in the State of Georgia between November 2011 and March 2012.

SOURCE: Adapted by CESAR from Stogner, J.M. and Miller, B.L., “A Spicy Kind of High: A Profile of Synthetic Cannabinoid Users,” *Journal of Substance Use*, Advance online publication (doi:10.3109/14659891.2013.770571), 2013. For more information, contact Dr. Stogner at stogner@email.unc.edu.

A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Synthetic Cannabinoid Users Report Using the Drug to Avoid Positive Drug Tests; Return to Marijuana Use When Not Being Tested

Synthetic cannabinoids, also known as K2 or Spice, are not included in most routine drug test panels because they require specialized, more expensive testing. Furthermore, studies have shown that the types and amounts of synthetic cannabinoid (SC) metabolites can vary greatly between products, lots, and even within the same package¹, making it difficult to decide which specific SC metabolite should be included in drug testing programs. Some SC users use the drug as a substitute for marijuana to avoid positive drug tests, according a qualitative study of SC users in Southern California. The study found that:

- The majority of synthetic cannabinoid users reported that they used the drug to avoid positive drug tests, either because they were under community correctional supervisions, seeking employment, residing in a sober living facility, or joining the military. According to one user, “Spice would give you a weed like effect without the positive test” (p. 220).
- “Most of the users of Spice-type products in this study consumed these products as a substitute for marijuana during drug-testing periods, and returned to marijuana use once that period ended” (p. 223). According to one user, “I was trying to get a job where they were going to drug test . . . so I got that stuff [Spice], and I liked it enough. I enjoyed it. I did it for a while . . . Then, my job search ended ‘cause I wasn’t going to do any of them. So I went back to the regular stuff” (p. 222).
- Nearly all the SC users learned of the drug from someone who was using SC to avoid detection on drug tests. For example, one user reported that he “was talking to some kids that went to a Christian school, and they get drug tested. So, all the kids there would smoke Spice instead of weed” (p. 222).
- All the SC users also used marijuana, and half had a history of drug problems, such as sobriety attempts, drug-related offending, and negative drug experiences.
- Some of the SC users expressed concern over the health effects of the drug. “I don’t know what they’re putting in it. It kind of scares me, so I try not to do it that often” (p. 222). Others experienced negative side-effects. “It [Spice] just doesn’t feel right. Way more of a stressor on your body, like your body is trying to deal with whatever cannabinoid that is in there, and it’s just like you experience it in a different way. It feels worse.” (p. 222).

The authors note that while synthetic cannabinoid products are labeled as not being for human consumption and thus cannot be regulated by the Food and Drug Administration (FDA), “this tactic for circumventing the law does not appear to detract potential users from purchasing and consuming these untested, unknown and potentially harmful substances” (p. 223).

NOTE: Findings are from in-depth, semi-structured interviews with 25 Southern California adults who had used K2, mephedrone, bath salts, or *Salvia divinorum* at least once. Participants were recruited using flyers distributed to head shops, cafes and other businesses; advertisements posted in free weekly newspapers; and snowball sampling. The “findings are neither intended to reflect the patterns of all users throughout the US nor users around the globe. Rather, they are intended to contribute to the need for accurate information about the growing use of these substances” (p. 223).

¹e.g., Hillebrand, J, et al., “Legal Highs on the Internet,” *Substance Use and Misuse*, 45(3): 330-340, 2010.

SOURCE: Adapted by CESAR from Perrone, D., Helgesen, R.D., and Fischer, R.G., “United States Drug Prohibition and Legal Highs: How Drug Testing May Lead Cannabis Users to Spice,” *Drugs: Education, Prevention and Policy* 20(3):216-224, 2013. For more information, contact Dina Perrone at dina.perrone@csulb.edu.

Department of Legislative Services
Maryland General Assembly
2013 Session

FISCAL AND POLICY NOTE**Revised**

Senate Bill 109

(Senator Kelley, *et al.*)

Judicial Proceedings

Judiciary

Criminal Law - Cannabimimetic Agents - Prohibition

This bill codifies “cannabimimetic agents” to the State’s list of Schedule I controlled dangerous substances. “Cannabimimetic agents” are defined as substances that are cannabinoids receptor type 1 (CB1 receptor) agonists as demonstrated by binding studies and functional assays within one of several specified structural classes. The bill also specifically lists several chemical substances that are considered cannabimimetic agents.

Fiscal Summary

State Effect: None. The substances covered by the bill are already designated Schedule I substances in the State.

Local Effect: None. The substances covered by the bill are already designated Schedule I substances in the State.

Small Business Effect: None.

Analysis

Current Law: Controlled dangerous substances are listed on one of five schedules (Schedules I through V) set forth in statute depending on their potential for abuse and acceptance for medical use. Under the federal Controlled Dangerous Substances Act, for a drug or substance to be classified as Schedule I, the following findings must be made: (1) the substance has a high potential for abuse; (2) the drug or other substance has no currently accepted medical use in the United States; and (3) there is a lack of accepted safety for use of the drug or other substance under medical supervision.

No distinction is made in the law regarding the illegal possession of any controlled dangerous substance, regardless of which schedule it is on, with the exception of marijuana.

In general, a defendant in possession of marijuana is guilty of a misdemeanor and subject to imprisonment for up to one year and/or a fine of up to \$1,000. However, pursuant to Chapters 193 and 194 of 2012 (SB 214/HB 350), a person in possession of less than 10 grams of marijuana is subject to a reduced penalty of imprisonment for up to 90 days and/or a maximum fine of \$500.

The use or possession of less than 10 grams of marijuana may not be considered a lesser included crime of any other crime unless specifically charged by the State. If a person is convicted of possessing less than 10 grams of marijuana, the court must stay any imposed sentence that includes an unserved, nonsuspended period of imprisonment without requiring an appeal bond (1) until the time for filing an appeal has expired and (2) during the pendency of a filed appeal of the conviction.

If the court finds that the defendant used or possessed marijuana out of medical necessity, the maximum punishment is a \$100 fine. An affirmative defense is available to defendants for use or possession of marijuana or related paraphernalia due to a debilitating medical condition.

The use or possession of a controlled dangerous substance other than marijuana is a misdemeanor with maximum criminal penalties of four years imprisonment and/or a \$25,000 fine.

For information on additional primary crimes involving controlled dangerous substances, please refer to the **Appendix – Primary Crimes Involving Controlled Dangerous Substances**.

Background: Cannabimimetic agents, also referred to as “synthetic marijuana” or “synthetic cannabinoids,” are chemical substances that are not derived from the marijuana plant but are designed to affect the body in ways similar to THC, the primary psychoactive ingredient in marijuana. Synthetic cannabinoids are typically sprayed onto plant material and marketed under names such as “Spice” or “K2.” The popularity and availability of these substances has grown in recent years, and criminal enforcement of the sale and possession of these substances has been challenging, since manufacturers can elude legal bans on products by making slight changes to their chemical structures.

On July 9, 2012, President Obama signed the Synthetic Drug Abuse Prevention Act of 2012 (SDAPA). SDAPA placed 26 substances in the federal list of Schedule I controlled dangerous substances, including all of the substances specified in this bill. SDAPA also

created a new definition of “cannabimimetic agents” with criteria by which similar chemical compounds are controlled. The SDAPA definition is identical to the one included in this bill.

Under Maryland law, if the federal government places a substance on Schedule I, it is automatically considered a Schedule I substance in the State unless the Department of Health and Mental Hygiene (DHMH) objects to the designation. Since DHMH has not raised an objection, all of the substances encompassed by this bill are illegal in Maryland.

According to the National Conference of State Legislatures, as of November 28, 2012, 41 states and Puerto Rico have enacted legislation to ban synthetic cannabinoids.

According to DHMH, the Maryland Poison Control Center received 159 calls related to synthetic cannabinoids during the first eight months of 2012, compared to 151 calls in calendar 2011. The calls came from 20 of Maryland’s 24 jurisdictions. A majority of the calls involved individuals age 19 or younger.

Additional Information

Prior Introductions: None.

Cross File: HB 267 (Delegate Sophocleus, *et al.*) - Judiciary. Although not designated as a cross file, this bill is identical to HB 1 (Delegate K. Kelly, *et al.* – Judiciary).

Information Source(s): Department of Health and Mental Hygiene, Judiciary (Administrative Office of the Courts), Office of the Public Defender, Department of Public Safety and Correctional Services, State’s Attorneys’ Association, National Conference of State Legislatures, U.S. Drug Enforcement Administration, U.S. Department of Health and Human Services (Substance Abuse and Mental Health Administration), U.S. Office of National Drug Control Policy, Department of Legislative Services

Fiscal Note History: First Reader - January 28, 2013
mc/kdm Revised - Senate Third Reader - March 29, 2013

Analysis by: Amy A. Devadas

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Appendix – Additional Primary Crimes Involving Controlled Dangerous Substances

For specified primary crimes involving controlled dangerous substances and paraphernalia, a person may not:

- distribute, dispense, or possess with the intent to distribute a controlled dangerous substance;
- manufacture a controlled dangerous substance or manufacture, distribute, or possess a machine, equipment, or device that is adapted to produce a controlled dangerous substance with the intent to use it to produce, sell, or dispense a controlled dangerous substance;
- create, distribute, or possess with the intent to distribute a counterfeit substance;
- manufacture, distribute, or possess equipment designed to render a counterfeit substance;
- keep a common nuisance (any place resorted to for the purpose of illegally administering controlled dangerous substances or where such substances or controlled paraphernalia are illegally manufactured, distributed, dispensed, stored, or concealed); or
- pass, issue, make, or possess a false, counterfeit, or altered prescription for a controlled dangerous substance with the intent to distribute the controlled dangerous substance.

Exhibit 1 contains the applicable sentences for these crimes.

Exhibit 1
Penalties for Distribution of Controlled Dangerous Substances (CDS)
and Related Offenses

Offense

Current Penalty

CDS (Other than Schedule I or II Narcotic Drugs and Other Specified CDS)

First-time Offender – CDS (other than Schedule I or II narcotic drugs and other specified CDS)	Maximum penalty of 5 years imprisonment and/or \$15,000 fine
Repeat Offender – CDS (other than Schedule I or II narcotic drugs and other specified CDS)	2-year mandatory minimum sentence Maximum penalty of 5 years imprisonment and/or \$15,000 fine

CDS (Schedule I or II Narcotic Drug)

First-time Offender – Schedule I or II narcotic drug	Maximum penalty of 20 years imprisonment and/or \$25,000 fine
Second-time Offender – Schedule I or II narcotic drug	10-year mandatory minimum sentence (20 years maximum imprisonment) and a fine of up to \$100,000
Third-time Offender – Schedule I or II narcotic drug	25-year mandatory minimum sentence and a fine of up to \$100,000
Fourth-time Offender – Schedule I or II narcotic drug	40-year mandatory minimum sentence and a fine of up to \$100,000

CDS (Specified Drugs)

First-time Offender – Specified Drugs	Maximum penalty of 20 years imprisonment and/or a fine of up to \$20,000
Second-time Offender – Specified Drugs	10-year mandatory minimum sentence (20 years maximum imprisonment) and a fine of up to \$100,000
Third-time Offender – Specified Drugs	25-year mandatory minimum sentence and a fine of up to \$100,000
Fourth-time Offender – Specified Drugs	40-year mandatory minimum sentence and a fine of up to \$100,000

Note: All mandatory minimum sentences listed in the exhibit are nonsuspendable and nonparolable.

Source: Department of Legislative Services

Maryland General Assembly passes bill banning chemicals in spice

By ALEX JACKSON ajackson@capgaznews.com | Posted: Friday, April 5, 2013 8:00 am

The Maryland General Assembly has passed a bill outlawing the major components of “spice,” or synthetic marijuana.

The House of Delegates voted 138-1 on Thursday for Senate Bill 109, which the Senate passed in March.

Under the bill, some chemicals common in spice would join drugs like marijuana and mescaline as Schedule 1 substances.

Last year, President Barack Obama signed a federal law banning synthetic marijuana and similar drugs. The ban placed 26 substances on the federal list of Schedule 1 controlled dangerous substances.

Supporters of SB 109 have argued that local prosecutors need a state law in order to pursue cases involving the designer drug.

Because of spice’s growing popularity, officials at the Naval Academy and Fort George G. Meade have taken steps to curb its use by military personnel.

Anne Arundel County police also have tried to convince area gas station and convenience store owners to stop selling the substance, and have said they are looking for a way to bring criminal charges.

The sponsor of the bill, Sen. Delores Kelley, D-Baltimore County, could not be reached for comment late Thursday.

But Del. Cathy Vitale, R-Severna Park, said the bill wasn’t enough. During a hearing on Feb. 5 Vitale told fellow lawmakers they should do more to prevent an “epidemic” of spice use.

The Department of Health and Mental Hygiene reported that the Maryland Poison Control Center received 159 calls related to synthetic cannabinoids, the major component of spice, during the first eight months of 2012, compared to 151 calls in all of 2011.

The calls came from 20 of Maryland’s 24 jurisdictions. A majority of them involved people age 19 or younger, according to an analysis by the Department of Legislative Services.

Though SB 109 has passed, Vitale on Thursday argued that manufacturers can easily change the chemical makeup of the product to evade the measure.

Vitale introduced legislation that would have required spice manufacturers to label the ingredients in each packet, giving judges the authority to determine if the substance mimics the effects of spice and allowing spice to exist legally for research purposes only.

“They gutted the bill that had a chance to do something and left it with little more than the federal ban,” Vitale said. “And we know that did nothing to get this deadly substance off the street. I will continue to fight to have it all banned.”

Spice consists of herbal mixtures treated with synthetic chemicals. When the substance is smoked, it produces an experience similar to marijuana. The materials are legally marketed as incense, and the drug culture portrays them as a safe, legal way to get high.

Between 2010 and 2011, the American Association of Poison Control Centers reported spice cases in emergency rooms increased from 3,000 to 7,000 nationwide. Some 48 percent of those who overdosed were teenagers.

25

Chapter 442

(Senate Bill 109)

AN ACT concerning

Criminal Law – ~~Controlled Dangerous Substances – Research – Synthetic Cannabinoids~~ Cannabimimetic Agents – Prohibition

FOR the purpose of ~~authorizing a certain authorized provider to conduct research in the State with certain controlled dangerous substances not scheduled under federal law under certain circumstances; listing synthetic cannabinoids cannabimimetic agents on Schedule I for purposes of designating to designate~~ controlled dangerous substances that may not be legally used, possessed, or distributed; defining a certain term; and generally relating to controlled dangerous substances.

BY renumbering

Article – Criminal Law

Section 5–101(e) through (ee), respectively

to be Section 5–101(f) through (ff), respectively

Annotated Code of Maryland

(2012 Replacement Volume and 2012 Supplement)

BY repealing and reenacting, without amendments,

Article – Criminal Law

Section 5–101(a)

Annotated Code of Maryland

(2012 Replacement Volume and 2012 Supplement)

BY adding to

Article – Criminal Law

Section 5–101(~~ff~~) (e)

Annotated Code of Maryland

(2012 Replacement Volume and 2012 Supplement)

BY repealing and reenacting, with amendments,

Article – Criminal Law

Section ~~5–304~~ and 5–402(d)

Annotated Code of Maryland

(2012 Replacement Volume and 2012 Supplement)

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND, That Section(s) 5–101(e) through (ee), respectively, of Article – Criminal

Law of the Annotated Code of Maryland be renumbered to be Section(s) 5-101(f) through (ff), respectively.

~~SECTION 1. SECTION 2. AND BE IT FURTHER ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND,~~ That the Laws of Maryland read as follows:

Article – Criminal Law

5-101.

(a) In this title the following words have the meanings indicated.

~~(FF)~~ (E) (1) ~~“SYNTHETIC CANNABINOID” MEANS A CHEMICAL COMPOUND THAT IS CHEMICALLY SYNTHESIZED AND CANNABIMIMETIC AGENTS” MEANS SUBSTANCES THAT ARE CANNABINOID RECEPTOR TYPE 1 (CB1 RECEPTOR) AGONISTS AS DEMONSTRATED BY BINDING STUDIES AND FUNCTIONAL ASSAYS WITHIN ONE OF THE FOLLOWING STRUCTURAL CLASSES:~~

~~(I) HAS BEEN DEMONSTRATED TO HAVE BINDING ACTIVITY AT ONE OR MORE CANNABINOID RECEPTORS; OR 2-(3-HYDROXYCYCLOHEXYL)PHENOL WITH SUBSTITUTION AT THE 5-POSITION OF THE PHENOLIC RING BY ALKYL OR ALKENYL, WHETHER OR NOT SUBSTITUTED ON THE CYCLOHEXYL RING TO ANY EXTENT;~~

~~(II) IS A CHEMICAL ANALOG OR ISOMER OF A COMPOUND THAT HAS BEEN DEMONSTRATED TO HAVE BINDING ACTIVITY AT ONE OR MORE CANNABINOID RECEPTORS 3-(1-NAPHTHOYL)INDOLE OR 3-(1-NAPHTHYLMETHANE)INDOLE BY SUBSTITUTION AT THE NITROGEN ATOM OF THE INDOLE RING, WHETHER OR NOT FURTHER SUBSTITUTED ON THE INDOLE RING TO ANY EXTENT AND WHETHER OR NOT SUBSTITUTED ON THE NAPHTHOYL OR NAPHTHYL RING TO ANY EXTENT;~~

~~(III) 3-(1-NAPHTHOYL)PYRROLE BY SUBSTITUTION AT THE NITROGEN ATOM OF THE PYRROLE RING, WHETHER OR NOT FURTHER SUBSTITUTED IN THE PYRROLE RING TO ANY EXTENT AND WHETHER OR NOT SUBSTITUTED ON THE NAPHTHOYL RING TO ANY EXTENT;~~

~~(IV) 1-(1-NAPHTHYLMETHYLENE)INDENE BY SUBSTITUTION OF THE 3-POSITION OF THE INDENE RING, WHETHER OR NOT FURTHER SUBSTITUTED IN THE INDENE RING TO ANY EXTENT AND WHETHER OR NOT SUBSTITUTED ON THE NAPHTHYL RING TO ANY EXTENT; OR~~

~~(V) 3-PHENYLACETYLINDOLE OR 3-BENZOYLINDOLE BY SUBSTITUTION AT THE NITROGEN ATOM OF THE INDOLE RING, WHETHER OR~~

NOT FURTHER SUBSTITUTED IN THE INDOLE RING TO ANY EXTENT AND WHETHER OR NOT SUBSTITUTED ON THE PHENYL RING TO ANY EXTENT.

(2) "~~SYNTHETIC CANNABINOID~~ CANNABIMIMETIC AGENTS"
INCLUDES:

(I) ~~1-[2-(4-MORPHOLINYL)ETHYL]-3-(1-NAPHTHOYL)INDOLE (ALSO KNOWN AS JWH-200) 5-(1,1-DIMETHYLHEPTYL)-2-[(1R,3S)-3-HYDROXYCYCLOHEXYL]-PHENOL (CP-47,497);~~

(II) ~~1-BUTYL-3-(1-NAPHTHOYL)INDOLE (ALSO KNOWN AS JWH-073) 5-(1,1-DIMETHYLOCTYL)-2-[(1R,3S)-3-HYDROXYCYCLOHEXYL]-PHENOL (CANNABICYCLOHEXANOL OR CP-47,497 C8-HOMOLOG);~~

(III) ~~1-HEXYL-3-(1-NAPHTHOYL)INDOLE (ALSO KNOWN AS JWH-019) 1-PENTYL-3-(1-NAPHTHOYL)INDOLE (JWH-018 AND AM678);~~

(IV) ~~1-PENTYL-3-(1-NAPHTHOYL)INDOLE (ALSO KNOWN AS JWH-018) 1-BUTYL-3-(1-NAPHTHOYL)INDOLE (JWH-073);~~

(V) ~~1-PENTYL-3-(2-METHOXYPHENYLACETYL)INDOLE (ALSO KNOWN AS JWH-250) 1-HEXYL-3-(1-NAPHTHOYL)INDOLE (JWH-019);~~

(VI) ~~1-PENTYL-3-(4-CHLORO-1-NAPHTHOYL)INDOLE (ALSO KNOWN AS JWH-398) 1-[2-(4-MORPHOLINYL)ETHYL]-3-(1-NAPHTHOYL)INDOLE (JWH-200);~~

(VII) ~~2-[(1R,3S)-3-HYDROXYCYCLOHEXYL]-5-(2-METHYLOCTAN-2-YL)PHENOL (ALSO KNOWN AS CP-47,497 AND ITS C6, C7, C8, AND C9 HOMOLOGUES) 1-PENTYL-3-(2-METHOXYPHENYLACETYL)INDOLE (JWH-250);~~

(VIII) ~~(2-METHYL-1-PROPYL-1H-INDOL-3-YL)-1-NAPHTHALENYL-METHANONE (ALSO KNOWN AS JWH-015) 1-PENTYL-3-[1-(4-METHOXYNAPHTHOYL)]INDOLE (JWH-081);~~

(IX) ~~(6AR,10AR)-9-(HYDROXYMETHYL)-6,6-DIMETHYL-3-(2-METHYLOCTAN-2-YL)-6A,7,10,10A-TETRAHYDROBENZO[C]CHROMEN-1-OL (ALSO KNOWN AS HU-210) 1-PENTYL-3-(4-METHYL-1-NAPHTHOYL)INDOLE (JWH-122); AND~~

(X) ~~DEXANABINOL (6AS,10AS)-9-(HYDROXYMETHYL)-6,6-DIMETHYL-3-(2-METHYLOCTAN-2-YL)-6A,7,10,10A-~~

~~TETRAHYDROBENZO[C]CHROMEN 1-OL (ALSO KNOWN AS HU 211) 1-PENTYL-3-(4-CHLORO-1-NAPHTHOYL)INDOLE (JWH-398);~~

(XI) 1-(5-FLUOROPENTYL)-3-(1-NAPHTHOYL)INDOLE (AM2201);

(XII) 1-(5-FLUOROPENTYL)-3-(2-IODOBENZOYL)INDOLE (AM694);

(XIII) 1-PENTYL-3-[(4-METHOXY)-BENZOYL]INDOLE (SR-19 AND RCS-4);

(XIV) 1-CYCLOHEXYLETHYL-3-(2-METHOXYPHENYLACETYL)INDOLE (SR-18 AND RCS-8); AND

(XV) 1-PENTYL-3-(2-CHLOROPHENYLACETYL)INDOLE (JWH-203).

~~(3) "SYNTHETIC CANNABINOID" DOES NOT INCLUDE ANY DRUG THAT HAS BEEN APPROVED BY THE FEDERAL FOOD AND DRUG ADMINISTRATION.~~

~~5-304.~~

~~(a) If an authorized provider is authorized to dispense or conduct research under State law, the Department shall register the authorized provider to dispense a controlled dangerous substance or to conduct research with a controlled dangerous substance listed in Schedule II through Schedule V.~~

~~(b) The Department need not require separate registration under this section for an authorized provider who is:~~

~~(1) engaged in research with a nonnarcotic controlled dangerous substance in Schedule II through Schedule V; and~~

~~(2) already registered under this subtitle in another capacity.~~

~~(c) An authorized provider may conduct research in the State with a controlled dangerous substance listed in Schedule I if the authorized provider is:~~

~~(1) registered under federal law to conduct research with a controlled dangerous substance listed in Schedule I and gives evidence of the registration to the Department; OR~~

~~(2) APPROVED BY A FEDERALLY REGISTERED INSTITUTIONAL BOARD OR INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE TO CONDUCT RESEARCH ON A CONTROLLED DANGEROUS SUBSTANCE LISTED IN SCHEDULE I THAT IS NOT SCHEDULED UNDER FEDERAL LAW AND GIVES EVIDENCE OF THE APPROVAL TO THE DEPARTMENT.~~

5-402.

(d) (1) A material, compound, mixture, or preparation that contains any of the following hallucinogenic or hallucinogenic-like substances is a substance listed in Schedule I:

- (i) bufotenine;
- (ii) diethyltryptamine;
- (iii) dimethyltryptamine;
- (iv) 4-methyl-2, 5-dimethoxyamphetamine;
- (v) ibogaine;
- (vi) lysergic acid diethylamide;
- (vii) marijuana;
- (viii) mescaline;
- (ix) peyote;
- (x) psilocybin;
- (xi) psilocyn;
- (xii) tetrahydrocannabinol;
- (xiii) thiophene analog of phencyclidine;
- (xiv) 2, 5-dimethoxyamphetamine;
- (xv) 4-bromo-2, 5-dimethoxyamphetamine;
- (xvi) 4-methoxyamphetamine;
- (xvii) 3, 4-methylenedioxyamphetamine;

- (xviii) 3, 4-methylenedioxymethamphetamine (MDMA);
- (xix) 5-methoxy-3, 4-methylenedioxyamphetamine;
- (xx) 3, 4, 5-trimethoxyamphetamine;
- (xxi) N-methyl-3-piperidyl benzilate;
- (xxii) N-ethyl-3-piperidyl benzilate;
- (xxiii) N-ethyl-1-phenylcyclohexylamine;
- (xxiv) 1-(1-phenylcyclohexyl)-pyrrolidine;
- (xxv) 1-(1-(2-thienyl)-cyclohexyl)-piperidine;
- (xxvi) 1-methyl-4-phenyl-4-propionoxypiperidine (MPPP);
- (xxvii) 1-(2-phenylethyl)-4-phenyl-4-acetyloxypiperidine
(PEPAP);
- (xxviii) 3, 4-methylenedioxymethcathinone (methylone);
- (xxix) 3, 4-methylenedioxyprovalerone (MDPV);
- (xxx) 4-methylmethcathinone (mephedrone);
- (xxxi) 4-methoxymethcathinone (methedrone);
- (xxxii) 4-fluoromethcathinone (flephedrone); [and]
- (xxxiii) 3-fluoromethcathinone (3-FMC); AND
- (XXXIV) ~~SYNTHETIC CANNABINOIDS~~ CANNABIMIMETIC
AGENTS.

(2) Unless specifically excepted under this subtitle, a salt, isomer, or salt of an isomer of a substance listed in this subsection is a substance listed in Schedule I if the existence of the salt, isomer, or salt of an isomer is possible within the specific chemical designation.

~~SECTION 2.~~ SECTION 3. AND BE IT FURTHER ENACTED, That this Act shall take effect October 1, 2013.

Approved by the Governor, May 16, 2013.