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Request for Information

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K2 or Spice

HISTORY

K2 or Spice, marketed as “synthetic marijuana,” is an herbal substance being sold legally in the United States as incense labeled “not for human consumption.” The products contain one or more synthetic compounds which interact with the body similarly to the primary psychoactive constituent of delta-tetrahydrocannabinol, or THC, in marijuana. Therefore, the corrupt term of “synthetic marijuana” has been attached to these substances when in fact the correct term should be “synthetic cannabinoids.” A series of synthetic compounds were created in 1995, by Dr. John W. Huffman of Clemson University. One of the more popular compounds created by Dr. Huffman was the JWH series specifically; JWH-018. The primary goal of studies involving the JWH series was to determine the relationship of these compounds in the body and document physiological responses with the CB1 and CB2



Photo courtesy of the CBP Port of Dayton, DHL Express Hub

receptors in the brain and spleen. The CB1 receptor has the ability to exert psychotropic effects, while the CB2 receptor is more involved in pain and inflammation. While experimentation with JWH series is still in its infancy, test results have shown this synthetic compound has the ability to bind to the CB1 receptor more often than the CB2 receptor compared to THC. Dr. Huffman has noted that it is possible for a person to read published studies and recreate these synthetic compounds with commercially available materials.

Although these synthetic compounds have been available for 15 years, the usage has only recently increased simultaneously with open source reporting. Dr. Huffman quoted the synthetic compounds as “nothing special,” and this appears to be the report from users as well. The body appears to recognize the synthetic compounds as a foreign substance and often causes a physiological rejection. Users report symptoms including stomach cramping and high blood

pressure. While people continue to experiment with the JWH series of synthetic cannabinoids, users report the experience is not equal to that of marijuana. The experience is shorter in duration and the hallucinatory portion is unpredictable per user. The purpose of creating the JWH series of cannabinoids was to study the effects on the body when compounds bind to the CB1 and CB2 receptors. These synthetic compounds, which number in the hundreds, do not create the same side effects as THC in marijuana; therefore, side effects of those persons who ingest these chemicals are largely unknown. While Dr. Huffman has been credited with the creation of the JWH series, several other strings of synthetic cannabinoids have been created by other researchers. Some of the more popular synthetic substances include the HU series (HU-210) and CP 47,497. All of these substances have been detected in Florida.

AVAILABILITY & PRICING

Currently, one of the more popular websites to purchase K2 is www.k2incense.org, which is based in Hong Kong. The website contains the disclaimer their incense is not for human consumption, although they offer to ship the material pre-rolled in a smokable form. In addition, these products can be obtained from a variety of sources to include local smoke or “head shops.” Businesses or individuals are able to purchase packages with a variety of K2 substances, each with differing chemical compounds. K2 can be purchased for as little as \$8 per gram online, with the presence of active substances such as JWH-018 ranging from three to twenty milligrams. Usually, the material is sold in a minimum of three-gram baggies for a retail sale price of \$35. K2 is readily available since a multitude of synthetic chemicals can be sprayed on a variety of leaves and be marketed as a substitute for marijuana.



Photo courtesy of the CBP Port of Dayton, DHL Express Hub

In addition to online prepackaged K2, powdered forms of synthetic cannabinoids, like JWH-018, are available for online purchase as well. The availability of powdered material allows anyone to create their own K2, which makes the dosage and chemical structure even more unpredictable.

USAGE

With the misconception that Spice is a marijuana substitute, persons are smoking the substance with the assumption the effects will mimic marijuana. The synthetic compound merely binds to the same neurological receptors as THC, but does not cause the same physiological and psychological effects. Once users experience the false psychological effects, averaging 30 minutes in duration, they may also experience unpleasant physiological effects. Due to this unequal experience, there do not seem to be a large number of repeat users, as reflected in online open source reporting, including www.erowid.org which cautions readers not to use the substance.

FLORIDA INCIDENTS

In December 2009, open source reporting confirmed two teenagers from Sarasota, FL, were taken to the hospital for negative reactions after smoking Spice. Both teenagers were released from the hospital shortly after treatment. Their adverse reactions were described as being “out of it” with “slight convulsions.” The teenagers admitted to hospital staff the cause of their afflictions and stated they obtained the substance from local shops. The teenagers reported learning of the substance originally from the Internet.



Photo courtesy of NCIS

originate from Poison Center data, local law enforcement, and the media. Any information received is being forwarded to the Governor’s Office of Drug Control to quantify the need for substance scheduling.

In June 2010, open source reporting confirmed two teenagers from Wakulla County, FL, were taken to the hospital as a result of smoking Spice. Law enforcement were called to the scene due to one of the teenagers being unresponsive and helped identify the substance as Spice. The substance was purchased legally in Tallahassee, FL. Both teenagers were treated and released.

To date, the Florida Department of Health has seventeen (17) documented cases of medical intervention due to the use of synthetic marijuana. The origins of these cases

FDLE CASES

The Florida Department of Law Enforcement (FDLE) Pensacola Laboratory has encountered two cases with materials considered to be Spice. In February 2009, two samples in common packages, labeled Spice 99 Regular and Spice Diamond, were tested for synthetic material. These samples were negative for HU-210 and JWH-018, and tested positive for CP 47,497, which is also an unscheduled cannabinoid. In April 2010, a loose plastic bag with the written label “Mango” was tested and was positive for JWH-018. The FDLE Tallahassee and Orlando Laboratories have also each received one case submission.

In addition, independent labs in Pinellas County, FL, and Palm Beach County, FL, have received four cases with powder or residue from the compound and one case with both the compound and plant material.

LEGISLATIVE

Due to the synthetic compound not being created for human consumption, governments throughout the world have begun restricting the sale of the material. The first country to control the sale of K2 or Spice was Austria, in December 2008. At this time, 12 other countries in Western and Eastern Europe have restricted its sale. The United States is also moving towards legislation proposing sale restrictions. The only states to have successfully passed legislation making the substance illegal are Georgia, Kansas, Kentucky, and North Dakota. In addition, Alabama and Tennessee will join these states on July 1, 2010. Only six other states have begun legislative discussions to move towards banning K2 or Spice products.



Photo courtesy of South Florida HIDTA

At this time, the JWH series is not a federally scheduled substance. The Drug Enforcement Administration (DEA) is actively researching the occurrence of JWH-018, but has not announced scheduling the substance presently. However, other controlled chemicals have been discovered during material testing by law enforcement, such as HU-210, which is listed by the DEA as a Schedule I substance. HU-210 is also a cannabinoid and up to 800 times more potent than THC. One difficulty for law enforcement is field testing. The test kits will not show positive for any cannabinoid other than THC, meaning

HU-210 and JWH series are required to be confirmed in a laboratory setting. Due to the variety of chemicals applied to substances labeled as K2 or Spice and the irregularity of law enforcement laboratories encountering the material, a standard testing procedure is currently unavailable. These synthetic compounds are also undetectable by drug-sniffing canines.

The challenge associated with the banning or scheduling of these substances revolves around the literal hundreds of variations of these substances which can be easily created and molecularly modified to create new synthetic substances. Governments will need to be very proactive in identifying these synthetic cannabinoids and will need to determine how to effectively capture large numbers of each family of synthetics when adding them to their controlled substances lists.

Any agency with additional information on incidents involving K2 or Spice is asked to please contact Inspector Jeff Beasley, (850) 410-7084, JeffBeasley@fdle.state.fl.us.

If you would like more information about this intelligence brief, or if you have information that you would like posted in a bulletin, please contact the Florida Department of Law Enforcement at (850) 410-7645.

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