



Synthetic Marijuana: Spice, K2 and Other Cannabinoid-like Designer Drugs

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Since early 2010, a new synthetic marijuana has surfaced in the United States. This synthetic marijuana is commonly referred to as Spice or K2, although it may be referred to by other names as well (see Table 1). The original compounds were developed in the U.S. to study the effect of marijuana on human receptors¹ and were named after the researcher, John W. Huffman.

Names	
Bliss	K2 Summit
Black Mamba	Space
Bombay Blue	Skunk
Damiana	Spice
Drolle	Spice Diamond
Fake Weed	Spice Gold
Genie	Spice Silver
Halo	Yucatan Fire
K2	Zohai

References: 1. United States Government, Drug Enforcement Administration 2. Substance Abuse Trends In Texas: June 2010.

Spice has been available since 2004 in European countries² and became popular in 2008 after the blend was made illegal in European countries and in Japan.³ Currently, the compound known as Spice is manufactured primarily in China and Korea.⁴ The product is an herbal incense that has been referred to as a “designer drug” or “legal high.”^{2,5} This product has been described to look like potpourri and made up of different herbs sprayed with synthetic cannabinoid compounds.³ According to Uchiyama and colleagues, Spice is a product of synthetic and endogenous cannabinoids possessing pharmacological cannabimimetic activity; however, package labels do not identify cannabis as an ingredient. Some of the packages may list the following synthetic cannabinoids as ingredients: CP-47,497-C8, JWH-018, JWH-073, JWH-250, JWH-398; cannabicyclohexanol; oleamide^{2,5,6}; HU-210; and HU-211⁷. A recent study showed considerable variation in the concentrations of these synthetic cannabinoids. For example, cannabicyclohexanol ranged from 1.1 to 16.9mg/g, JWH-018 concentration ranged from 2.0 to 35.9mg/g, and oleamide concentration ranged from 7.6 to 210.9mg/g.²

Individuals using these products reportedly experience effects similar to those produced by cannabinoid smoking or ingesting,^{4,8} (see Table 2). Evidence shows that the synthetic substance may also produce withdrawal and dependence in users.⁹

Marijuana, specifically the active ingredient, tetrahydrocannabinol (THC), has been used for many years and the effects of the substance are well known, however little is known about these new synthetic products and good manufacturing product (GMP) standards are not adhere to.⁵ Evidence also shows that the products appear to be stored in the body for a long period of time, and long term effects on humans are not fully understood.⁷ At this time, drug tests are unable to detect these marijuana homologues, although a urine test is expected to be available in the future.^{4,9}

Agitation
Delusions
Dilated pupils
Giddiness
Hallucinogenic
Hypertension
Palpitations
Paranoia
Panic attacks
Respiratory issues
Vomiting

Reference: United States Government, Drug Enforcement Administration.

The Texas Poison Control Center network has received more than 100 calls regarding the use of Spice from January 1, 2010 through June 30, 2010. The report shows that 91% of calls made to the network were related to either misuse or abuse of the substance.⁹

Legal status: On November 24, 2010 the DEA placed five synthetic cannabinoid compounds into Schedule I of controlled substances for a temporary period of one year.¹⁰ The five compounds are identified as CP 47,497 and homologues, HU-210, HU-211, JWH-018, and JWH-073. A 30 day moratorium was allowed before this became effective. The one-year period will allow the DEA to propose a more permanent schedule for these compounds.

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