

# 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.

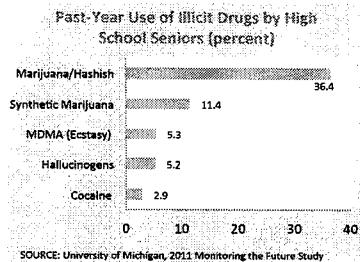
### False Advertising

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. 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.



### 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%20paper%20...%20final%20version.pdf](http://www.emcdda.europa.eu/attachements.cfm/att_80086_EN_Spice%20The%20paper%20...%20final%20version.pdf)

## DRUG FACTS

With so many voices and opinions out there, all you need is the knowledge to make your own decisions.



### CLASS NOTES ► SPICE (SYNTHETIC MARIJUANA)

## THE LOWDOWN

Synthetic marijuana can be just as brain altering as real marijuana, and may cause health problems.

### AKA:

K2, fake marijuana, Blaze, Yucatan Fire, Skunk, Moon Rocks.

### WHAT IS IT:

Spice is a mildly hallucinogenic herbal mix of dried plant material and synthetic cannabinoids that affect your body and brain much like THC, the active ingredient in marijuana. <sup>73</sup>

### THE RISKS:

You really don't know what exactly is in the mix if you're purchasing spice—many different ingredients have been found including five or more synthetic cannabinoids that have a high potential for abuse. <sup>73</sup> You may hear that spice makes you mellow and euphoric just like marijuana does, but it can be even more powerful and unpredictable. People taken to emergency rooms or Poison Control Centers have symptoms that include rapid heart rate, vomiting, agitation, confusion and hallucinations. <sup>74</sup>

### LONG-TERM EFFECTS:

Filling your body with unknown substances can have severe consequences. It's not exactly known how the synthetic cannabinoids in Spice may affect you down the line. Some users report signs of withdrawal and addiction.

### THE BOTTOM LINE:

It's known that marijuana can limit your brain's effectiveness. <sup>41</sup> Spice can be just as devastating to your developing mind. You can never predict what exactly is in this substance or how toxic it could be. That's a potent combination that can have an effect on your future

## SOURCES

41: National Institute on Drug Abuse. Marijuana: An Update on the National Institute on Drug. (<http://www.drugabuse.gov/tib/marijuana.html>). Published February 2011. Retrieved July 2011

73: European Monitoring Centre for Drugs and Drug Addiction. ([http://www.emcdda.europa.eu/attachements.cfm/att\\_80086\\_EN\\_Spice%20Thematic%20paper%20-%20final%20version.pdf](http://www.emcdda.europa.eu/attachements.cfm/att_80086_EN_Spice%20Thematic%20paper%20-%20final%20version.pdf)) Revised May 2012. Retrieved August 2012.

74: The American Association of Poison Control Centers (AAPCC). ([http://www.aapcc.org/dnn/Portals/0/prre/updatedk2\\_mav112011.pdf](http://www.aapcc.org/dnn/Portals/0/prre/updatedk2_mav112011.pdf)). Published May 2011. Retrieved August 2012.

## DRUG FACTS

With so many voices and opinions out there, all you need is the knowledge to make your own decisions.



### CLASS NOTES ► SPICE (SYNTHETIC MARIJUANA)

## PRESSURE METER

The pressure drops when you keep track of the facts.

**Poison control centers report that SPICE symptoms include rapid heart rate, vomiting, agitation, confusion, and hallucinations. <sup>75</sup>**

**Spice products are labeled "not fit for human consumption" and are illegal in the U.S. and in most European countries. <sup>76</sup>**

**The U.S. Naval Academy recently expelled 12 midshipmen for using spice. <sup>77</sup>**

## SOURCES

75: National Institute on Drug Abuse. *NIDA Info Facts: Spice (Synthetic Marijuana)* (<http://www.drugabuse.gov/publications/infofacts/spice>). Revised May 2012. Retrieved July 2012.

76: National Institute on Drug Abuse. "Spice" – *Not as Fun as it Sounds* (<http://teens.drugabuse.gov/blog/spice-not-as-fun-as-it-sounds/>). Published Feb 2011. Retrieved July 2012.

77: Shaughnessy, Larry. "Naval academy expels more midshipmen in 'spice' investigation." -*CNN*. (<http://www.cnn.com/2011/US/04/01/navy.drug.expulsions/index.html>). Published April 2011. Retrieved August 2012.



The Partnership for a Drug-Free America, Arizona Affiliate

## ALERT: Synthetic Marijuana - Spice (K2) Fact Sheet

**Marketed as incense.** Spice/K2 is a legal substance marketed since 2006 as a dried, herbal blend for use as incense. However, people are smoking the incense because it produces a high similar to marijuana, but of longer duration. The incense is sprayed with JWH-018, a synthetic THC, before it is packaged for sale. This spray is reportedly an "analgesic chemical which acts as a cannabinoid."

**More potent than marijuana.** Depending on the synthetic compound in the specific commercial brand, it can be more potent than marijuana.

**Not for human consumption.** Spice is sold in smoke shops and head shops in a variety of colors/flavors-usually sold in foil packaging or in small glass containers. It is sold as incense and marked "not for human consumption". The average cost is \$30.00 a gram, more expensive than marijuana.

### Most likely users:

- 14-27 yr. olds
- Prisoners/probationers
- Military (use now banned by all military branches)

**Significant health risks.** Spice is causing a significant health risk. Spice/K2 is often contaminated with unidentified toxic substances which contribute to various adverse health effects (also cause hallucinogenic effects similar to effects of PCP. Symptoms/side-effects may include:

- mimics marijuana "high" (often induced more quickly/more intense than "real" marijuana)
- hallucinations
- seizures/tremors
- coma/unconsciousness
- vomiting
- numbness/tingling
- increased respiration rate
- elevated blood pressure (reported up to 200/100-medically dangerous)
- elevated heart rate (reported up to rate of 150-medically dangerous)
- increased level of anxiety/agitation leading to panic attacks (possible suicide attempts)
- All effects of K2/Spice drugs may not be known for a very long time because of long time period that body stores them.

**Developed for research, never tested on humans.** Spice/K2 was developed by Dr. John W. Huffman, a Clemson University professor, as part of research for the National Institute for Drug Abuse (NIDA) on endogenous cannabinoid receptors-but never tested on humans nor approved by the FDA. Dr. Huffman said in an interview to WebMD, "It is like Russian roulette to use these drugs. We don't know a darn thing about them for real. It shouldn't be out there."

**Marketed under various names.** It is marketed under a variety of names including K2, Spice, Pep Spice, Spice Silver, Spice Gold, Spice Diamond, Smoke, Skunk, Yucatan Fire, Genie & Zohai Orange Dragon Smoke, Black Mamba, Blaze, Red X, and Dawn.

**Not just smoked.** Spice is most often smoked but can be mixed in with food or drink.

**State and International bans already in place.** K2 has been banned in many countries and 17 states. New York, Texas, and New Jersey are considering legislation. An organized effort is currently getting underway in Arizona to explore a possible ban here in our state.