

# SYNTHETIC CANNABINOIDS (K2)

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## What are synthetic cannabinoids?

Synthetic cannabinoids, known popularly as K2 or Spice, are a mixture of chemicals made in laboratories that are sprayed on dried plant matter (leaves, flowers, resin) and then smoked. While K2 is designed to have similar effects as marijuana and has mistakenly been called “synthetic marijuana”, it is not marijuana. The contents of K2 are inconsistent from product to product and unknown to the person using them. *As a result, the effects of K2 are unpredictable, and often severe and distressing.*

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## What are the symptoms of K2 use?

K2 can have different effects on different people and can act as both a stimulant (upper) or a depressant (downer). Symptoms include:

- Confusion
- Irritability and agitation
- Dizziness
- Difficulty concentrating
- An altered perception of reality
- Violent behavior
- Paranoia
- Panic attacks
- Nausea
- Vomiting

Occasionally, K2 can cause severe health effects, including:

- Problems breathing
  - Kidney failure
  - Heart attack or stroke
  - High blood pressure
  - Muscle damage
  - Overdose
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## Synthetic cannabinoid overdoses

Taken at high enough amounts, K2 can cause severe symptoms, including overdose.

Call 911 if someone who is using K2 experiences any of the following:

- Respiratory distress
- High heart rate and blood pressure
- An inability to be calmed down
- The person is a danger to themselves or others

### Fentanyl-Related Overdoses:

There have been recent reports of fentanyl, a strong [opioid](#), being mixed with K2. This makes it very dangerous for people who may not know that fentanyl is in their drug supply and increases the risk of overdose. The Department of Public Health recommends that anyone who uses K2 or knows someone who uses K2 carry naloxone and know how to reverse a fentanyl-related overdose. If you see someone experiencing the signs of an opioid overdose after smoking K2, use [naloxone](#).

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## Safer use strategies for synthetic cannabinoids

K2 is sprayed on plant matter and the distribution of chemicals can be uneven. Additionally, batches of K2 can differ in their chemical composition and strength. The

contents of K2 are inconsistent from product to product and unknown to the person using them. *As a result, the effects of K2 are unpredictable and often severe and distressing.*

People who use K2 can take the following precautions to decrease their risk of overdose:

- Use in a safe place with people you trust
- Use slowly, taking one hit, then wait for its effect before taking another hit
- Avoid using K2 in combination with other street drugs
- Drink extra fluids before using K2 to stay hydrated

If you witness someone who has used K2 become severely paranoid, use the following strategies to ease his or her anxiety:

- Bring the person to a safe space that is not crowded
- Acknowledge what the person says without affirming or denying the validity
- Tell the person that these feelings are due to a drug they used and that it should wear off in about an hour

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## Where can I learn more?

For questions or more information, visit our [resource page](#) or e-mail us at [overdose.prevention@phila.gov](mailto:overdose.prevention@phila.gov).

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## Sources:

Harm Reduction Coalition, *Advice to People Who Use K2/Spice*:

<https://harmreduction.org/wp-content/uploads/2016/12/K2-Advice-to-users-final-6-9-16.pdf>