



Bath Salts

Street names: Bloom, Cloud Nine, Vanilla Sky

EXPAND ALL

Revised March 2017

What are synthetic cathinones ("bath salts")?



Also known as: Bloom, Cloud Nine, Flakka, Scarface, Vanilla Sky, and White Lightning

“Bath salts” is the name given to synthetic cathinones, a class of drugs that have one or more man-made chemicals related to cathinone. Cathinone is a stimulant found naturally in the khat plant, grown in East Africa and southern Arabia. Chemically, cathinones are similar to amphetamines such as [methamphetamine](#) and to [MDMA \(Ecstasy or Molly\)](#). Common man-made cathinones found in bath salts include *3,4-methylenedioxypyrovalerone* (MDPV), mephedrone (Drone, Meph, or Meow Meow), and methylone, but there are many others. These man-made cathinones can be much stronger than the natural product and can be very dangerous.

Bath salts are usually white or brown crystal-like powder and are sold in small plastic or foil packages labeled “Not for Human Consumption.” Sometimes labeled as “plant food”—or, more recently, as “jewelry cleaner” or “phone screen cleaner”—they are sold online and in drug product stores. These names or descriptions have nothing to do with the product. It’s a way for the drug makers to avoid detection by the Drug Enforcement Administration or local police.

The man-made cathinone products sold as “bath salts” should not be confused with products such as Epsom salts (the original bath salts) that people add to bathwater to help ease stress and relax muscles. Epsom salts are made of a mineral mixture of magnesium and sulfate.

How Bath Salts Are Used

Use of “bath salts” (the drugs) sometimes causes severe intoxication (a person seems very drunk or “out of it”) and dangerous health effects. There are also reports of people becoming psychotic (losing touch with reality) and violent. Although it is rare, there have been several cases where bath salts have been the direct cause of death.

In addition, people who believe they are taking drugs such as MDMA (Molly or Ecstasy) may be getting “bath salts” instead. Methyldone, a common chemical in bath salts, has been substituted for [MDMA in capsules sold as Molly](#) in some areas.

Bath salts can be swallowed, snorted through the nose, inhaled, or injected with a needle. Snorting or injecting is the most harmful.

Banning Bath Salts

At the end of the last decade, bath salts began to gain in popularity in the United States and Europe as “legal highs.” In October 2011, the Drug Enforcement Administration put an emergency ban on three common man-made cathinones until officials knew more about them. In July 2012, President Barack Obama signed legislation permanently banning two of them—mephedrone and MDPV, along with several other man-made drugs often sold as marijuana substitutes (like [Spice](#)).

Although the law also bans chemically similar versions of the named drugs, manufacturers have responded by making new drugs different enough from the banned substances to get around the law.

What happens to your brain when you use synthetic cathinones (bath salts)?

The man-made cathinones in bath salts can produce:

- feelings of joy

- increased social interaction
- increased sex drive
- paranoia
- nervousness
- hallucinations (see or hear things that are not real)

There is a lot we still don't know about how the different chemicals in bath salts affect the brain. Researchers do know that bath salts are chemically similar to amphetamines, cocaine, and MDMA. Therefore, some of the effects of bath salts—feeling energetic and agitated—are similar. These drugs raise the level of [dopamine](#) in brain circuits that control reward and movement. Dopamine is the main neurotransmitter (a substance that passes messages between nerve cells) that makes people feel good when they do something they enjoy. A rush of dopamine causes feelings of joy and increased activity and can also raise heart rate and blood pressure. (Learn more about how [neurotransmitters](#) work.)

A study in animals found that MDPV raises brain dopamine in the same way as cocaine but is at least 10 times stronger. If this is also true in people, it may account for the reason that MDPV is the most common man-made cathinone found in the blood and urine of patients admitted to emergency rooms after taking bath salts.

Additionally, the hallucinations often reported by users of bath salts are similar to the effects caused by other drugs such as [MDMA](#) or LSD. These drugs raise levels of the neurotransmitter [serotonin](#).

Learn more about [how the brain works and what happens when a person uses drugs](#). And, check out how the brain responds to natural rewards and to drugs.

The Reward Circuit: How the Brain Responds to Nat...

What happens to your body when you use synthetic cathinones (bath salts)?

People who take bath salts can experience nosebleeds, sweating, and nausea. But, some of the effects of bath salts are much more serious.

In 2011, bath salts were reported in close to 23,000 emergency room visits.¹ Reports show bath salts users have needed help for heart problems (such as racing heart, high blood pressure, and chest pains) and symptoms like paranoia, hallucinations, and panic attacks.

Some people experience a syndrome known as “excited delirium” after taking bath salts. They may also have dehydration, breakdown of muscle tissue attached to bones, and kidney failure. Intoxication from several man-made cathinones including MDPV, mephedrone, methedrone, and butylone has caused death among some users. Snorting or needle injection of bath salts seems to cause the most harm.

¹ Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. *The DAWN Report. “Bath Salts” Were Involved in over 20,000 Drug-Related Emergency Department Visits in 2011.* Rockville, MD, September 17, 2013. Available at: <http://media.samhsa.gov/data/spotlight/spot117-bath-salts-2013.pdf> [560 KB].

Can you overdose or die if you use synthetic cathinones (bath salts)?

Yes. Intoxication from several man-made cathinones, including MDPV, mephedrone, methedrone, and butylone, has caused death among some users.

What are the other risks of using synthetic cathinones (bath salts)?

Another danger of bath salts is that they might contain other ingredients that cause their own harmful effects. There is no way to know what is in a dose of bath salts other than testing it in a lab.

In turn, there have been reports of other drugs containing bath salts. For example, hundreds of [ecstasy capsules](#) tested in two South Florida crime labs in 2012 contained methylone, a dangerous synthetic cathinone.

Are synthetic cathinones (bath salts) addictive?

Yes. Research shows bath salts are highly addictive. Users have reported that the drugs cause an intense urge to use the drug again. Frequent use may cause tolerance (a person needs to take more to feel the same effects), dependence, and strong withdrawal symptoms when not taking the drug. Withdrawal symptoms may include:

- depression
- anxiety
- tremors
- problems sleeping
- paranoia

How many teens use synthetic cathinones (bath salts)?

Bath salts have been involved in thousands of visits to the emergency room. In 2011 alone, there were 22,904 reports of bath salts use during emergency room visits. About two thirds of those visits involved bath salts in combination with other drugs.²

In addition, poison centers took more than 6,000 calls about exposures to bath salts in 2011. That number dropped to just under 500 calls in 2015.³

Below is a chart showing the percentage of teens who use bath salts.

Monitoring the Future Study: Trends in Prevalence of Bath Salts for 8th Graders, 10th Graders, and 12th Graders; 2016 (in percent)*

Drug	Time Period	8th Graders	10th Graders	12th Graders
Bath Salts	Past Year	0.90	0.80	0.80

* Data in brackets indicate statistically significant change from the previous year.

For more statistics on teen drug use, see [NIDA's Monitoring the Future study](#).

² Substance Abuse and Mental Health Services Administration. *The DAWN Report: "Bath Salts" were Involved in over 20,000 Drug-Related Emergency Department Visits in 2011*. Rockville, MD, September 17, 2013.

³ American Association of Poison Control Centers. Bath Salts. 2016. Arlington, VA, Available at: <http://www.aapcc.org/alerts/bath-salts/>.

What should I do if someone I know needs help?

If you see or hear about someone misusing opioids, talk to a coach, teacher, or other trusted adult.

If you, or a friend, are in crisis and need to speak with someone now, please call:

- **National Suicide Prevention Lifeline at 1-800-273-TALK** (they don't just talk about suicide—they cover a lot of issues and will help put you in touch with someone close by).

If you need information on treatment and where you can find it, you can call:

- **Substance Abuse Treatment Facility Locator at 1-800-662-HELP** or visit www.findtreatment.samhsa.gov.

For more information on how to help a friend or loved one, visit our [Have a Drug Problem, Need Help? page](#).

Where can I get more information on synthetic cathinones (bath salts)?

Drug Facts

NIDA:

- [DrugFacts: Synthetic Cathinones \(“Bath Salts”\)](#)
- [NIDA Notes Articles: Bath Salts](#)

Statistics and Trends

NIDA:

- [DrugFacts: High School and Youth Trends](#)

Centers for Disease Control and Prevention

- [Youth Risk Behavior Surveillance System](#)

Monitoring the Future (University of Michigan):

- [Monitoring the Future](#)

Substance Abuse and Mental Health Services Administration:

- [National Survey on Drug Use and Health](#)

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