

# Synthetic cathinones●

## What are synthetic cathinones?

Synthetic cathinones is the name of a category of drugs related to the naturally occurring khat plant.<sup>1</sup> They are stimulants, meaning that they speed up the messages between the brain and the body and have similar effects to amphetamines.

Synthetic cathinones are also part of a group of drugs known as New Psychoactive Substances (NPS). NPSs are a range of drugs that first appeared on the recreational drug market in the mid 2000s, that have been designed to mimic established illicit drugs, such as cannabis, cocaine, ecstasy and LSD. Synthetic cathinones are the second largest group of new substances monitored by the EMCDDA, with 130 detected in total — including 12 detected for the first time in 2017.<sup>2</sup>

Synthetic cathinones are mostly white or brown powders but also can be in the form of small, chunky crystals. They are sometimes found as capsules and less commonly as tablets.<sup>3</sup>

Types of cathinones commonly used

- Mephedrone (4-MMC), M-CAT)
- Methyldone
- Methcathinone
- Buphedrone
- Bupropion
- Pyrovalerone
- Alpha-Pyrrolidinovalerophenone (alpha-PVP)
- MDPV.<sup>3,4,5</sup>

## How are they used?

Synthetic cathinones are usually snorted, swallowed or injected.

When taken orally the desired effects are typically seen within 15–45 minutes. After snorting the desired effect is anecdotally reported to occur within a few minutes. The effects usually last for approximately 2–4 hours.<sup>6</sup>

## Effects of synthetic cathinones

**There is no safe level of drug use.** Use of any drug always carries some risk. It's important to be careful when taking any type of drug.

Synthetic cathinones affect everyone differently, based on:

- the amount taken
- a person's size, weight and health
- whether the person is used to taking it
- whether other drugs are taken around the same time
- the strength of the drug (which can vary from batch to batch).

The individual effects and toxicity of each cathinone are distinct and can vary greatly between each person using them.

Generally speaking, in small doses the following effects may be experienced and may last for approximately 2-4 hours:

- rush of intense pleasure
- feeling happy, energetic and wanting to talk more
- intense connection with music
- restless sleep
- muscle tension (face and jaw)
- blurred vision
- light-headedness, dizziness
- distorted sense of time
- enlarged (dilated) pupils, blurred vision
- dry mouth, thirst
- sweating
- memory loss
- reduced appetite.<sup>5</sup>

Higher doses may result in the following adverse affects:

- anxiety
- paranoia
- nose bleeds from snorting the drug

- stomach pains, nausea, vomiting
- skin rashes
- fast or irregular heartbeat
- high blood pressure and hot flushes
- strong urge to re-dose
- chest pain
- tremors, convulsions, death.<sup>5</sup>

### Using synthetic cathinones with other drugs

The effects of combining cathinones with other drugs – including over-the-counter or prescribed medications – can be unpredictable and dangerous. The following combinations could have the following effects:

Synthetic cathinones + ice, speed or ecstasy: increase the risk of cardiovascular (heart) problems and substance-induced psychosis.<sup>7</sup>

Synthetic cathinones + alcohol + cannabis: nausea and vomiting.<sup>6</sup>

### Health and safety

If possible, find out the specific cathinone you are using so you know what to expect and what a common dose is. Synthetic cathinone harm reduction advice is partly based on what is known of related drugs like amphetamines and MDMA, as not enough research has been done on individual synthetic cathinones specifically.

Use of synthetic cathinones is likely to be more dangerous when:

- taken in combination with alcohol or other drugs, particularly stimulants such as crystal methamphetamine ('ice') or ecstasy
- driving or operating heavy machinery
- judgment or motor coordination is required
- alone (in case medical assistance is required)
- the person has a mental health problem
- the person has an existing heart problem.

In Australia, poisons information centres and clinical toxicology units around Australia are often contacted for advice on poisonings from synthetic cathinones. Features of these poisonings include agitation, tachycardia (increased heart rate), hypertension and in severe cases delirium, aggressive behaviour, hallucinations, hyperthermia, cardiac dysrhythmia (irregular heart beat) and seizures. Deaths have occurred due to alpha-PVP toxicity.<sup>4</sup>

Injecting synthetic cathinones can cause soft tissue and vascular damage.<sup>4</sup>

Sharing needles may also transmit:

- Tetanus
- Hepatitis B
- Hepatitis C
- HIV/AIDS.

### **Dependence and tolerance**

There is limited data regarding people seeking treatment for synthetic cathinone dependence, however, people who use synthetic cathinones have reported a strong compulsion to redose, as well dependence.

### **Coming down**

In the days after synthetic cathinone use, the following may be experienced:

- restless sleep
- tiredness
- dizziness
- low mood
- wounds, sores taking longer to heal<sup>3</sup>
- memory loss
- depression
- anxiety
- tremors
- problems sleeping
- paranoia.

### **Synthetic cathinones and the law**

In Queensland, New South Wales, South Australia and Victoria there is now a 'blanket ban' on possessing or selling any substance that has a psychoactive effect other than alcohol, tobacco and food.

In other states and territories in Australia specific New Psychoactive Substances (including synthetic cathinones) are banned and new ones are regularly added to the list. This means that a drug that was legal to sell or possess today, may be illegal tomorrow. The substances banned differ between these states/territories.

See also, drugs and the law - [adf.org.au/talking-about-drugs/law/](http://adf.org.au/talking-about-drugs/law/)

## References

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4. Department of Health Therapeutic Goods Administration. 1.5. alpha-Pyrrolidinovalerophenone (alpha-PVP) and related substances methylone and synthetic cathinones 2018 [Available from: <https://www.tga.gov.au/book-page/15-alpha-pyrrolidinovalerophenone-alpha-pvp-and-related-substances-methylone-and-synthetic-cathinones>].
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6. Drug Wise. Mephedrone, methedrone, methadone and methylone 2017 [Available from: <https://www.drugwise.org.uk/mephedrone-methedrone-methadone-and-methylone/>].
7. Australian Government Department of Health. What are the effects of taking a drug? 2019 [Available from: <https://www.health.gov.au/health-topics/drugs/about-drugs/what-are-the-effects-of-taking-drugs>].

Always call an ambulance on triple zero (000) if an overdose is suspected: tell the paramedic exactly what has been taken. Paramedics are there to help and will not involve the police unless there is a danger to themselves or others.

## Other help, support services and resources

Links to further help and support • [adf.org.au/help-support/](http://adf.org.au/help-support/)

### ● Further information

#### **DrugInfo • 1300 85 85 84**

Free confidential information and advice about alcohol and other drugs (9am - 5pm, Mon-Fri)

#### **Family Drug Help • 1300 660 068 • [www.familydrughelp.com.au](http://www.familydrughelp.com.au)** (Victorian-based)

Services are available to support those around you who may be affected by your drug use. As well as providing understanding, they can provide information about how best to help during treatment.

#### **Family Drug Support • 1300 368 186 • [www.fds.org.au](http://www.fds.org.au)** (Australia-wide)




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