

New Psychoactive Substances ●

New Psychoactive Substances facts

New psychoactive substances (NPS) are a range of drugs that have been designed to mimic established illicit drugs, such as cannabis, cocaine, MDMA and LSD.

Manufacturers of these drugs develop new chemicals to replace those that are banned, which means that the chemical structures of the drugs are constantly changing to try to stay ahead of the law.¹

Other names

Synthetic drugs, legal highs, herbal highs, party pills, synthetic cocaine, synthetic cannabis, herbal ecstasy, NBOMes, bath salts, plant fertiliser, herbal incense, room deodorisers, aphrodisiac tea, social tonics, new and emerging drugs (NEDs), drug analogues and research chemicals. These products can sometimes be marked 'not for human consumption'.¹

Are they safer than established illicit drugs?

This is one of the biggest misconceptions about NPS. Even though they are sometimes advertised as legal, this doesn't mean they are safe. Given how rapidly new drugs are emerging, it is difficult to know the common effects of these drugs and what dose causes what effects.^{2,3}

NPS do not come with a recommended dosage printed on the label. They are unregulated and untested. Given the chemicals in these drugs are constantly changing to try to stay ahead of the law, it's possible to receive a very different product from batch to batch, even if the packaging and name are the same.

NPS are relatively new, so there is limited information available about their short and long-term effects. However, synthetic cannabis has been reported to have more serious side-effects than cannabis.⁴

As of January 2020, 120 countries and territories have reported to United Nations Office of Drug Control (UNDOC) the emergence of 950 new psychoactive substances.⁵

NPS can be categorised into the following groups:

Synthetic cannabinoids

Synthetic cannabinoids were originally designed to produce similar effects to cannabis and have been sold online since 2004. Some of the newer substances claiming to be synthetic cannabis do not actually mimic the effects of THC (delta-9 tetrahydrocannabinol, the active ingredient in cannabis). Reports suggest it also produces additional negative effects. These powdered chemicals are mixed with solvents and added to

herbs and sold in colourful, branded packets. The chemicals usually vary from batch to batch, so different packets can produce different effects even if the name and branding on the package looks the same.

Phenethylamines

Phenethylamines are a group of psychoactive drugs with stimulant effects and include amphetamine and MDMA. This group also contains

the 2C series, NBOMes, PMMA and benzodifurans (Bromo-Dragonfly).³

Synthetic cathinones

Synthetic cathinones is the name of a category of drugs related to the naturally occurring khat plant. They are stimulants, meaning that they speed up the messages between the brain and the body and have similar effects to amphetamines.⁶

Tryptamines

Most tryptamines are psychedelic drugs found in plants, fungi and animals (e.g. dimethyltryptamine (DMT) and psilocybin) and some are naturally occurring neurotransmitters (brain chemicals) such as serotonin and melatonin.⁷

Piperazines

Due to their stimulant properties piperazines are often sold as MDMA. They are commonly available as pills, capsules or powder and usually swallowed. Initially developed as a potential antidepressant drug but also having properties similar to amphetamines meant there was a risk for the non-prescribed use of piperazines. Some of the more commonly used piperazines are 1-benzylpiperazine (BZP) and trifluoromethylphenylpiperazine (TFMPP). When these two drugs are mixed they have similar effects to MDMA.^{3, 8}

Some of the adverse effects associated with piperazine use are:

- headaches
- tremors
- palpitations
- vomiting
- anxiety
- confusion
- increased body temperature (hyperthermia)
- insomnia³

Novel benzodiazepines

In recent years, several new psychoactive substances (NPS) belonging to the benzodiazepine class have also emerged. It has been reported that they are being sold under the names “legal benzodiazepines”, “designer benzodiazepines” or “research chemicals”.⁹ Novel benzodiazepines include substances that were tested but not approved as medicines, or illicitly manufactured substances that differ from the structure of existing benzodiazepines. Some of the initial drugs from this class include:

- diclazepam
- flubromazepam
- pyrazolam⁹

There is limited information on the short and long-term health effects of novel benzodiazepines.

Health and safety

There is no safe level of drug use. Use of any drug always carries some risk. It’s important to be careful when taking NPS and consider the following.

- Triple zero (000) should be called immediately if someone is experiencing negative effects and looks like they are in trouble. There have been a number of deaths caused by NPS. Ambulance officers don’t have to involve the police.
- Negative side-effects and overdose are more likely when NPS are taken in combination with alcohol or other drugs.
- It’s very hard to know the effects of NPS, even if they’ve been taken before, as these products are constantly changing. Taking a low dose first could help determine the effects and the strength of the drug. Activities like driving, swimming and operating machinery while under the influence should therefore be avoided.
- The packaging of these drugs is often misleading and doesn’t list all the ingredients or the correct amounts. This can make it easy to overdose.

- Many NPS contain a range of fillers and cutting agents that could lead to health problems, particularly if injected.
- Given caffeine is contained in many products, sometimes in high quantities, additional caffeine consumption (i.e. through coffee) could lead to overdose.
- People with mental health conditions may be at higher risk of harm from these drugs, as most of the deaths associated with them (such as suicides) have involved people with mental health conditions.
- The chemicals in some products might be cardiotoxic, lead to hypertension, or cause fast/irregular heartbeats. They can therefore cause health problems particularly amongst older people and people with pre-existing medical conditions.
- It can be difficult for medical practitioners to know how to treat someone who has overdosed on or has health problems caused by NPS, given the large number of these drugs on the market and the lack of research on their effects. Treatment could be quicker and more effective if the person has used the drug with somebody who can advise exactly what has been taken and the dosage, or it has been written down – supplying the packet might be helpful.

Getting help

If your use of NPS is affecting your health, family, relationships, work, school, financial or other life situations, you can seek help and support - adf.org.au/help-support/.

NPS and the law

The laws surrounding NPS are complex, constantly changing and differ between states/territories, but in general they are increasingly becoming stronger.

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 NPS substances 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/

References

1. Bright S. Not for human consumption: new and emerging drugs in Australia Melbourne: Alcohol and Drug Foundation; 2013. Available from: <https://cdn.adf.org.au/media/documents/ADF-PreventionResearch-Apr13.pdf>.
2. Fraser F. New Psychoactive Substances - Evidence Review. Scottish Government; 2014. Available from: <https://www.gov.scot/publications/new-psychoactive-substances-evidence-review/>.
3. State Library NSW. New and emerging psychoactive substances Sydney NSW. 2017 . Available from: <https://druginfo.sl.nsw.gov.au/drugs-z-drugs/new-and-emerging-psychoactive-substances>.
4. Cooper Z. Adverse Effects of Synthetic Cannabinoids: Management of Acute Toxicity and Withdrawal. Current Psychiatry Reports. 2016;18[5].
5. United Nations Office of Drug Control. Early Warning Advisory on New Psychoactive Substances - What are NSPs? 2020. Available from: <https://www.unodc.org/LSS/Page/NPS>.
6. Drug Policy Alliance. Synthetic cathinones. 2016 . Available from: <http://www.drugpolicy.org/resource/synthetic-cathinones>.
7. United Nations Office of Drug Control. Early Warning Advisory on New Psychoactive Substances - Tryptamines. 2020. Available from: <https://www.unodc.org/LSS/SubstanceGroup/Details/68c027b6-0ed9-4c07-a139-7f1ca7ffce84>.
8. United Nations Office of Drug Control. Early Warning Advisory on New Psychoactive Substances - Piperazines. 2020. Available from: <https://www.unodc.org/LSS/SubstanceGroup/Details/8242b801-355c-4454-9fdc-ba4b7e7689d5>.
9. United Nations Office of Drug Control. Non-medical use of benzodiazepines: a growing threat to public health? 2017. Available from: https://www.unodc.org/documents/scientific/Global_SMART_Update_2017_Vol_18.pdf

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/

● 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 (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 (Australia-wide)




● Stay informed

 twitter.com/alcoholdrugfdn

 facebook.com/alcoholdrugfdn

● Contact us

 1300 85 85 84

 adf.org.au