



# Nitrous oxide

## N<sub>2</sub>O/NOS, nangs, laughing gas

Nitrous oxide has been used to provide sedation and pain relief during childbirth and minor dental procedures for more than 150 years. It became popular as a recreational substance in 1799 when "laughing gas parties" were arranged mainly for the British upper class.

At room temperature, nitrous is a colourless non-flammable gas, with a slight metallic scent and taste.

Nitrous oxide is also used as a propellant to make whipped cream and while it is legal to sell canisters of nitrous oxide for this purpose anyone caught selling the canisters for inhalation could be prosecuted for illegally selling a prescription medicine.



## What Nitrous Oxide does

Nitrous acts as a depressant; it slows down your brain and your body's responses.

The effects from inhaling NOS come on immediately, peaking within a few seconds and lasting about a minute though will last longer with repeated inhalations.

Effects vary depending on how much has been inhaled. Usually people experience a rush of euphoria, a spaced out feeling, dreamy sensations, disorientation, relief from pain, and temporary loss of balance and co-ordination. They may also end up in fits of giggles and laughter hence the nickname 'laughing gas'.

Less noticeable effects such as relaxed muscles and reduced blood oxygen levels can last longer. Sometimes people experience mild audio and visual hallucinations (which may have a pulsating quality), and fixated or tunnel-like vision.

## Harms associated with Nitrous Oxide

Oxygen deprivation is the biggest risk if people don't take long enough breaks when inhaling NOS. The intoxicating effects of NOS can upset the brain systems that regulate breathing so the user is unaware they are not getting enough air. Being deprived of oxygen can lead to unconsciousness, potential brain damage, and death from forgetting to breathe while using the gas.

Different ways of inhaling the gas can also be risky. The most dangerous method is direct inhalation from a NOS tank/cylinder or from a NOS canister/*charger* connected to piercing equipment. NOS tanks are usually intended for medical use so very few people will have access to them; more popular and easily accessible are NOS canisters/*chargers*.

Inhaling directly from a *cracker* (equipment used to puncture the canister/*charger*) has two main risks:

1. Frostbite or tissue damage to the lips, throat and the more serious risk of frostbite to the vocal chords because the gas is very cold.
2. Severe damage to the lungs due to the high pressure of the gas coming out of the canister/ *chargers*.

## Long term effects

People can become psychologically dependent on using NOS as many users love the *buzz*. The more often and the more intense the use, the more likely it is that serious health problems will develop. Most of these potential problems seem to relate to depleting levels of essential body amino acids and vitamins (especially

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B12). This can cause damage to the brain, spinal cord, and bone marrow, leading to long term neurological or immunity and blood related problems.

Heavy prolonged use can make people more susceptible to infections due to a decrease in immunity, plus it can decrease fertility. People may also experience significant changes in their emotions and personalities which is probably due to central nervous system damage and/or oxygen deprivation.

## Tolerance and dependence

Tolerance to a drug usually develops the more often it's used – in other words you need more and more of the drug to get the same effects. **With NOS though, the opposite happens.** The more often it is used within a short time frame the more out of it people get so during prolonged NOS sessions, users can unintentionally sedate or anaesthetise themselves to the point where vital functions like breathing and heartbeat stop.

## Harm reduction tips

While there are some very practical harm reduction strategies to help reduce most of the short and long term risks, following this advice does not eliminate all risks, especially for long term heavy use of NOS.

No use is always the safest option.

- Get informed. Know what you are using; learn about the risks involved and how to manage and reduce them
- Never inhale directly from the charger. Use balloons to inhale the gas. This reduces the risk of potentially fatal lung damage from NOS pressure, as well as the risks associated with cold gas
- Always take long breaks between inhalations to reduce the chance of brain damage, unconsciousness, coma or death. This will also increase the available oxygen level in the blood which is depleted when inhaling NOS
- Keep NOS sessions to only a few canisters/chargers each (not a few boxes)
- Avoid NOS prepared for the automotive industry or any homemade NOS preparations as these can contain other substances that can have serious health consequences
- Dancing in hot clubs for long periods of time while using NOS or stimulants like 'P' or 'E' can increase the risk of hyperthermia (dangerously high body temperature)
- Avoid taking other drugs if having a NOS session. This includes stimulants (as mentioned above) and sedative/depressant drugs (e.g. alcohol, opiates, benzodiazepines, Ketamine, GHB). NOS is a sedative so if you combine it with other sedative drugs the risk of overdose is increased.  
Drugs which reduce blood pressure (e.g. Viagra & amyl nitrate/*Rush*) are especially dangerous in combination with NOS, as blood pressure could drop so low as to cause death from lack of blood to the heart and brain
- Never use a facemask or other equipment that attaches to the head if inhaling NOS from a tank. If you lose consciousness the gas will continue to be inhaled so the possibility of death is significantly increased
- Never use NOS in a confined space like in a car
- A minimum of 3 days between NOS sessions is advisable to reduce the possibility of reversed tolerance and possible overdoses.

## Looking for help?

If you're looking for more information or perhaps want to talk with someone about nitrous or other drug issues for yourself or someone close to you give [Auckland CADS](#) a call on **09 845 1818**

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