

# Poppers

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## Background

Poppers is a term used to describe alkyl nitrites, including amyl nitrite, isobutyl nitrite and isopentyl nitrite. In the past, amyl nitrite was used in the treatment of stable angina. These days, poppers are mainly used recreationally and they no longer have significant therapeutic uses. In the 1960s amyl nitrite was sold in ampoules, which made a popping sound when they were opened, hence the slang term “poppers”. As legislation was tightened, existing poppers were reformulated to avoid litigation. Indeed, even today, the substances are sold as “room fresheners” in an effort to abide by the regulations.

The Finnish Medicines Agency (Fimea) classifies poppers used for recreational purposes as medications. Therefore, it is illegal to order poppers overseas without a licence. Under the Finnish Medicines Act, import for sale is subject to marketing authorisation. According to a Fimea representative, Finnish entrepreneurs are aware that poppers cannot be imported for sale as room fresheners. Every year, Fimea issues requests for clarification to a number of companies selling poppers. Finland’s National Bureau of Investigation and the Finnish Customs occasionally receive samples for laboratory testing.

Poppers are used recreationally both in Europe and in the United States. A study from 1996 estimated that in the United States alone more than 4 million people have tried poppers. The users were often adults, although experimentation may begin earlier in life. Some 1.5% of 12-17-year-olds have tried poppers. In Britain, the prevalence is approximately 1%. There is no statistical information on popper usage in Finland.

## Effects

Poppers are liquid and evaporate quickly. They are inhaled from a small bottle via the nose. Brand names include RUSH, Man Scent and Iron Horse. These are indicative of their intended usage, which is to enhance sexual performance. Poppers are thought to increase nitrous oxide levels in the body, which is responsible for the primary effects. It causes blood vessels to dilate, causing a mild sense of drowsiness. The effects are almost immediate and wear off in a matter of minutes, although this can vary between preparations. It also relaxes smooth muscles in the body, including the anal sphincter, which is why the use of poppers is significantly higher among gay and bisexual men. It may also increase arousal, although some reports suggest that poppers can cause erectile dysfunction. The desired effects include a sense of warmth and euphoria. Poppers are also commonly used at clubs to achieve a high.

## Side effects

The dilation of blood vessels causes flushing, especially around the face and neck, along with headaches. Palpitations are also common. Poppers may be dangerous for users who suffer from heart problems, including arrhythmias. Some may experience a mild allergic reaction. The drowsiness increases the risk of accidents. In some cases, even short-term use has led to permanent eye damage. Users have also reported bouts of uncontrollable laughter, mild visual disturbance and skin and mucous membrane irritation, particularly around the nasal area. The literature also includes one report of an epileptic seizure and one possible panic attack.

There does not appear to be evidence of significantly impaired lung function, although the substances can irritate the respiratory tract. It is known that immune response is temporarily suppressed. The use of poppers can also cause temporary methemoglobinemia, in which the oxygen-carrying capacity of blood is reduced. However, for some users, this may even prove life threatening. Poppers are also known to have more long-term effects. For example, the activity of certain genes responsible for cancer is increased for many hours. Persistent use may also increase the risk of side effects.

Poppers do not cause physical dependence but they may prove mentally addictive. Users report the development of some tolerance over time.

## Risks of poppers

Despite their long history, the exact mechanism of action and risks associated with poppers are not well known. As they

are quickly eliminated from the body, there has been a tendency to downplay the toxicity of poppers and their metabolites.

In recreational use, poppers are *used by inhalation*. It appears from the literature that poppers are thus far not associated with any deaths, or that the number is extremely limited. The risks of *inhalation* are minor as usage is sporadic, brief and the dosages are low. Accounting for the physical risks, their potential to cause addiction, as well as the more general adverse effects, including social impact and financial costs to society, poppers should not be deemed especially dangerous. However, **they should never be drunk**. *Consumed orally*, poppers are particularly dangerous and deaths have been reported. When *taken orally*, poppers do not produce the desired intoxicating effect.

Using poppers while under the influence of other drugs and alcohol can be considered high-risk behaviour. The effective period may also be longer. **Concomitant use with anti-hypertensive and erectile dysfunction medicines, including Viagra, is dangerous as they may cause life-threatening hypotension**. Poppers are also volatile substances and due care should be taken when handling them, particularly if you are a smoker.

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