

# **3. Volatile Substance Abuse (VSA) (2021 version)**

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# Introduction

Solvents and other volatile substances, are chemicals used in the production of a variety of products, many of which can be found around the home. For example:

· liquefied domestic gas	· paints, paint thinners & removers
· solvent-based glues and adhesives	· nail varnish and varnish removers
· deodorant aerosol, air fresheners	· some shoe and metal polish
· pain relief sprays	· petrol
· butane gas	· dry-cleaning fluids
· the contents of some types of fire extinguisher	· Nitrous oxide (laughing gas)

These products, and many others, contain solvents such as toluene, hexane, ethyl acetate and acetone. Their use in a product is to keep it dissolved until it is used (either sprayed, squirted or poured). It then evaporates without a trace. Solvents are also used to liquefy solid materials. For example, nail varnish remover contains a solvent that dissolves nail varnish to make it easy to remove.

The other use some of these chemicals have is as a propellant, and they are what make products like hair spray and spray paint spray from their container. HCFCs (hydrochlorofluorocarbons) are now the most commonly known propellants.

The practice of solvent abuse is by no means a modern phenomenon. It dates back at least as far as the ancient Greek and other civilisations, where it was an adjunct to religious practice.

The problem of solvent abuse is now widespread and varied, not only in the UK and the USA, but also in Africa, Australia, Canada, Finland, Japan, Central and South America and throughout Europe (see page 5).

In the average home there are over 30 sniffable products.

Recently the use of nitrous oxide, also known as 'laughing gas', 'NOS', or 'Hippy Crack' has increased around the UK. The small grey or silver canisters are sold in shops for use in whipped cream machines and can be used by



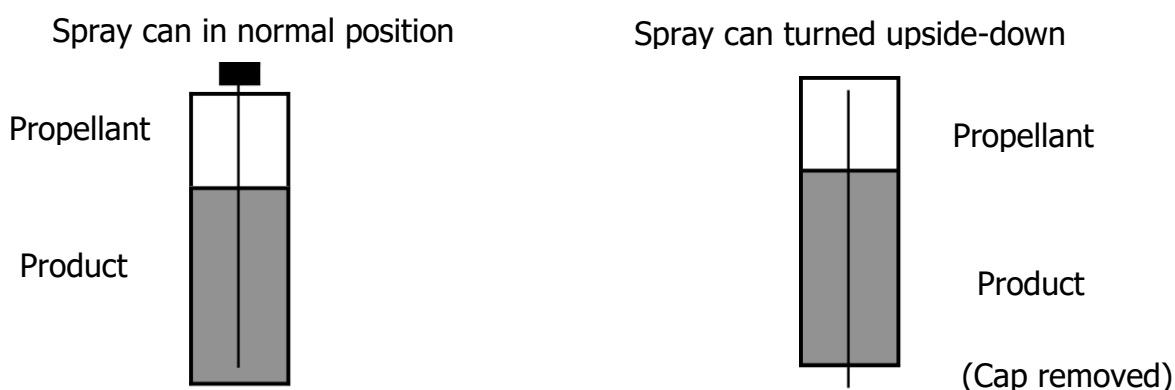
young people for a short 'buzz'. The gas is discharged into a balloon and then slowly inhaled. However, due to the fact that the chemical starves the brain of oxygen, it can have serious effects on the user, including death. This is a gas and, therefore, a volatile substance but it is not a solvent.

All products with this sign can be abused and must be treated with great care



# How They Are Taken

People often abuse solvents by sniffing a product that contains a solvent, which leads to them getting 'high' due to breathing in the volatile fumes from the product. But because there is such a wide range of substances, there are many ways they can be misused. Butane gas and aerosols are usually sprayed directly into the mouth after the cap is removed. As you can see on the diagram, in order to get the propellant out rather than the product, the spray can is turned upside down. (Please ensure this information is used sensibly and not shared with children or young people!)



Glue is generally sniffed from bags, often freezer or crisp bags. Some may put their heads inside a plastic bag. Sniffing is not really the right word because the vapours are inhaled through the nose and mouth; some users call it 'huffing'.

Sniffable products are widely available and they are portable, so people can sniff while walking around, they can sniff in school or anywhere around their home. They may sniff in bed, using the bed-covers as a tent to contain the fumes. Some solvent users may absorb thinners on to a rag (which they carry in their pocket) or on to a piece of their clothing.

Street names for solvents include: Gas, glue, thinners, dusting and whippets..

## Health

### Solvents and the body

The onset of effects is rapid as Volatile Substance Abuse (VSA) involves the inhalation of a product, or its vapours, which enter the body via the large surface of the lungs providing easy access to the bloodstream. Solvents are depressants which act on the central nervous system and cause what is known as 'disinhibition', and they are also hallucinogens as they can cause hallucinations. Several of the effects are similar to those of alcohol. **Positive and negative short-term effects** can include:

- euphoria
- giggliness
- drunken-like feelings

- flushed face and slurred speech
- blurred vision
- hallucinations
- headache
- fainting
- conjunctivitis
- stomach ache
- cough
- may have difficulty in standing or keeping their balance
- coma
- cardiac arrhythmia danger (abnormal heart rate and rhythm)
- death

The effects of solvents wear off quickly and in order to remain 'high' it is necessary to keep sniffing, so if the solvent is taken away the sniffer will soon 'sober up'. However, some effects such as headache, stomach-ache, conjunctivitis and cough can last for days. The effects are progressive with the level and duration of use and they can be different depending on what substance is used.

Solvents can make a user behave in ways that are similar to those who have been drinking. They can be excitable and laugh a lot, or become miserable and cry. They may be unsteady on their feet and may also become withdrawn, irritable, violent and aggressive.

**Long-term effects** can include damage to the liver, kidneys, lungs, bone marrow or nervous system, but these effects are rare because many users stop after a short while, and the effects are generally reversible.

**Other Possible Effects/Risks** (mostly short-term)

Some other things than can happen to a user (directly or indirectly):

- Sniffing can have an effect on the heart (cardiac arrhythmia), and deaths involving cardiac arrest have been known as 'sudden sniffing deaths'.
- Since many of these products are inflammable there is a fire risk, especially if youngsters combine sniffing and smoking.
- If butane gas or aerosols are sprayed directly into the mouth, a reaction may occur causing the throat tissues to swell and possibly cause suffocation.
- Most sniffable products are a mixture of chemicals, and the manufacturers may change their formulation. This makes it hard to assess the dangers of particular products as the users can't judge the quantity.
- There is a concern that some users don't know how to do it, so they inhale the product and not the propellant (see diagram on page 3).
- Some solvents contain poisonous substances such as lead in some petrol or hexane in some glues.

- Using solvents with other drugs, such as alcohol, may add to the dangers.
- Getting intoxicated is always potentially dangerous; people may become more reckless than usual and be less able to deal with danger.
- Young and inexperienced users run greater risks.
- Some young people have died at their first sniffing session.
- If solvent users use large plastic bags they may suffocate themselves.
- If solvent users become unconscious they may choke on their own vomit.
- Because solvent users often sniff in risky places (such as on railway embankments, near canals and in derelict buildings) they may face additional hazards.
- Some people are more vulnerable to the harmful effects of solvents and may suffer lasting damage.

## Who is sniffing?

There is no stereotypical person who 'sniffs' - it can be anyone. Children from any social class may try sniffing. This does not necessarily mean that their parents have failed or brought them up badly. It's more likely to be one of the 'rebellious' and sometimes risky things that young people do. Not many children try solvents before the age of 11, and the peak age is estimated to be 15-19 years. However, there have been children under 10 years old who have died because of VSA. VSA is more common in males than females and England and Scotland are the two regions with the highest number of VSA deaths (International Centre for Drug Policy 2012). But sniffing is also a worldwide problem:

<p><b>United States</b> In 1998 the US reported that an estimated 3,170,000 people had abused volatile substances, 273,000 on a daily basis.</p>	<p><b>Romania</b> – A study of street children in Bucharest and two other cities indicated that 99% use solvents, including glues and thinners.</p>	<p><b>Japan</b> Authorities have expressed alarm at suicides linked to sniffing paint thinners after the deaths of three of five teenagers who leapt from the seventh floor of a building.</p>
<p><b>Guatemala</b> More than 50% of street children use substances, mainly shoe glue.</p>	<p><b>Brazil</b> – Glue sniffing is used as a replacement for food. A tube of glue will last two or three days instead of food.</p>	<p><b>Egypt</b> – Children use substances to dull their pain when fighting or being beaten. Glue is an affordable coping mechanism.</p>

## Why do young people do it?

Young people have their reasons for misusing solvents. Adults won't get very far in trying to help them unless they find out what their reasons are. Here are some reasons why young people sniff:

- **Boredom.** Sniffing can satisfy a need for new, exciting and cheap social activities. It is comparable to their parents having a social drink at the pub.
- **Shock.** If adults are shocked by sniffing, that can be an attraction.
- **Excitement.** For some young people there is the attraction and excitement of playing with a new physical sensation, partly because of the element of danger. After all, there are whole businesses devoted to giving people weird sensations, like the fairground industry.
- **Hallucinations.** While sniffing, hallucinations may seem interesting, enjoyable, exciting, and allow youngsters to 'escape' - if only temporarily and only in their imagination. But they can also be dangerous, unpleasant and frightening (like horror films).
- **Peer pressure.** The power of peer pressure can often be underestimated during the teenage years, which are a time of self-discovery and personal growth. The pressure to be popular can make it difficult to resist friends' persuasion, even when there are dangers, and taking risks can seem an easy way to impress friends.
- **Lack of knowledge.** Not many adults know much about sniffing, which results in the poor education of young people or no knowledge at all.
- **Risk taking.** Boys enjoy risk-taking which could account for a high level of use among boys.
- **Problems.** A few sniffers may use solvents in an attempt to blot out problems that they already have. Use of solvents may temporarily disguise their problems but will generally make things worse but it doesn't seem like that to them at the time.

## How to recognise when someone is sniffing

There are no clear-cut signs and symptoms that will identify someone who has been sniffing. Many of the effects are indistinguishable from the normal processes of growing up. For example, moodiness may be a result of sniffing, but many teenagers are moody without having tried solvents. Look out for:

Any of these might be happening for other reasons. It is important not to jump to conclusions. Remember, most young people never try solvents.

- quantities of butane, aerosol or glue cans, or plastic bags in a place where you know your child has been.
- chemical smells on clothes or breath / heavy use of scents to disguise smells.
- 'drunken' behaviour that sobers quickly.

- sudden change in behaviour or lifestyle, for example going around with a new set of friends.
- secretiveness about leisure time activities.
- loss of appetite.
- asking for money without explaining what it is for.
- spots around nose and mouth (but 'glue sniffers' rash occurs only with some glues; it isn't common, and may be acne).
- wide swings in mood or behaviour e.g. tiredness, irritability, aggressiveness.
- frequent and persistent headaches, sore throat or runny nose (whatever the reason, a visit to the GP would be wise.).
- changes in sleeping patterns, appetite, drinking patterns and school performance.
- lack of interest in physical appearance.

## Dependence

As solvents themselves aren't physically addictive, physical dependence is not a recognised problem with VSA. However, psychological dependence can develop in a minority of young people in response to underlying family or personal problems, or other worries. These people will use it to help them cope with their everyday lives, or possibly just to liven up a life they consider dull and boring. Solvents can also be used as a means of escapism and some find it difficult to face the world without them.

Because solvents aren't physically addictive, there are no physical withdrawal symptoms, but someone trying to give them up may require a lot of support from those around them to help them face life without a means of escape or retreat.

## Tolerance

Tolerance develops quite quickly. After a year of regular use, sniffers may have to inhale several times more than they started with to get the same effect and many users develop the ability to work out how much they need to maintain the effects on a constant basis.

## The Law

Cigarette Lighter Refill (Safety) Regulations 1999

It is illegal to supply any cigarette lighter refill canister containing butane, or a substance with butane as a constituent part, to any person under the age of 18.

Intoxicating Substances (Supply) Act 1985

It is illegal to sell or supply a substance to anyone believed to be under the age of 18 or anyone acting on behalf of someone under that age if he or she has reasonable cause to believe that the substance may be inhaled for the purpose of intoxication. The act is applicable in England, Wales and Northern Ireland.

The maximum penalty for a breach of either of these is a six-month prison sentence and a fine of £5000.

It is legal to purchase and subsequently abuse solvents and other volatile substances. However:

- It is not easy to recognise solvent users and it's hard for shopkeepers to know whether a young person will use a product for sniffing rather than for its legitimate purpose.
- It is very difficult to keep track of all the products that can be sniffed.
- There are so many places where young people can get solvents.
- The law doesn't affect solvent mis-users over the age of 18.
- It is impractical to make solvent sniffing illegal
- Making sniffable substances smell nasty is difficult.
- Manufacturers have had some success in making less harmful products, but these have not always been popular with users.
- Stopping people sniffing one substance may turn them to others, which might be more dangerous.

## Help Available

Most young people who try sniffing (and remember, those who try sniffing are only a small minority) will do it only a few times and stop without any help from adults. But if you discover that a child has tried solvents, what can you do?

Some young people don't realise that sniffing can be dangerous, mainly because of the lack of education - so telling them about the dangers of sniffing may be all that they need. You may feel like expressing your concern very strongly but you need to do this in a constructive way, which will help them to change their behaviour.

More important than talking, you will need to listen. Perhaps there are problems that you don't know about. You may find that the sniffing isn't actually the main problem, and it's more urgent to tackle other problems rather than focusing on the sniffing. If you can help them with the problems, giving up sniffing will not be such an ordeal, as they won't have to 'escape' any more.

You may want to ensure that they don't carry on sniffing but it may be difficult to stop a determined sniffer. Instead, arranging interesting and exciting activities together will help the young person to know that you care and will give them other things to do. It will help make sniffing seem less interesting and will also help you to keep track of how they are using their free time.

It is important that they have a health check if they have been sniffing for some time. If the young person you are trying to help refuses to stop using solvents you may want to give advice on how to reduce the risks they are taking and how to reduce the damage to their health by explaining the less obvious risks to them. Harm from solvents can be reduced by the young person never sniffing on their own and not in dangerous places and take breaths between inhalations. You may want to get advice from a local helping agency or call Re-Solv's Freephone National Helpline on 01785 810762.



# VSA Statistics

Last updated December 2020

## Use of VSA

The British Crime Survey stopped asking about VSA in 2011, but in that year, it was estimated that 57,000 adults had misused them. In 2016, NHS Digital reported that 4.4% of young people said they had misused VSA in the last year.

In 2016, there were 64 deaths related to volatile substances registered in Great Britain. Over 80% of these deaths were males. Deaths are most common in those aged 20-39 years of age and gas fuels are responsible for over half of all VSA-related deaths.

VSA is the most common form of substance misuse among 11-13-year-olds and is second only to cannabis among 14-15-year-olds.

An ESPAD survey reported that 10% of 15-16-year-olds said they had ever tried volatile substances, compared with the 20% who said they had in a 1995 survey.

(Re-Solv, 2020)