



What Are Inhalants?

(National Institute on Drug Abuse; National Institutes of Health;
U.S. Department of Health and Human Services.)

Although other substances that are misused can be inhaled, the term *inhalants* refers to the various substances that people typically take *only* by inhaling. These substances include:

- Solvents (liquids that become gas at room temperature)
- Aerosol sprays
- Gases
- Nitrites (prescription medicines for chest pain)

Inhalants are various products easily bought and found in the home or workplace—such as spray paints, markers, glues, and cleaning fluids. They contain dangerous substances that have *psychoactive* (mind-altering) properties when inhaled. People don't typically think of these products as drugs because they're not intended for getting "high," but some people use them for that purpose. When these substances are used for getting high, they are called *inhalants*. Inhalants are mostly used by young kids and teens and are the only class of substance used more by younger than by older teens.

How do people use inhalants?

People who use inhalants breathe them in through the mouth (*huffing*) or nose in various ways:

- sniffing or snorting fumes from a container or dispenser (such as a glue bottle or a marking pen)
- spraying aerosols (such as computer cleaning dusters) directly into the nose or mouth
- "huffing" from a chemical-soaked rag in the mouth
- sniffing or inhaling fumes from chemicals sprayed or put inside a plastic or paper bag (*bagging*)
- inhaling from balloons filled with nitrous oxide, often called *laughing gas*

Although the high that inhalants produce usually lasts just a few minutes, people often try to make it last by continuing to inhale again and again over several hours.

Products Used as Inhalants

Solvents

Industrial or household products, including:

- paint thinners or removers
- dry-cleaning fluids
- gasoline
- lighter fluid

Art or office supply solvents, including:

- correction fluids
- felt-tip marker fluid
- electronic contact cleaners
- glue

Aerosols

Household aerosol items, including:

- spray paints, hair or deodorant
- aerosol computer cleaning products
- vegetable oil sprays



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Gases

Found in household or commercial products, including:

- butane lighters
- propane tanks
- whipped cream aerosols or dispensers (*whippets*)

Used as anesthesia (to make patients lose sensation during surgery/procedures), including:

- ether
- chloroform
- nitrous oxide

Nitrites

Often sold in small brown bottles labeled as:

- *video head cleaner*
- *room odorizer*
- *leather cleaner*
- *liquid aroma*

How do inhalants affect the brain?

Most inhalants affect the central nervous system and slow down brain activity. Short-term effects are similar to alcohol and include:

- slurred or distorted speech
- lack of coordination (control of body movement)
- euphoria (feeling "high")
- dizziness

People may also feel light-headed or have *hallucinations* (images/sensations that seem real but aren't) or *delusions* (false beliefs). With repeated inhalations, many people feel less self-conscious and less in control. Some may start vomiting, feel drowsy for several hours, or have a headache that lasts a while. Unlike other types of inhalants, nitrites, which are often prescribed to treat chest pain, are misused in order to improve sexual pleasure by expanding and relaxing blood vessels.

What are the other health effects of inhalants?

Long-term effects of inhalant use may include:

- liver and kidney damage
- hearing loss
- bone marrow damage
- loss of coordination and limb spasms (from nerve damage)
- delayed behavioral development (from brain problems)
- brain damage (from cut-off oxygen flow to the brain)

In addition, because nitrites are misused for sexual pleasure and performance, they can lead to unsafe sexual practices or other risky behavior. This increases the chance of getting or spreading infectious diseases such as HIV/AIDS or hepatitis.

Can a person overdose on inhalants?

Yes, a person can overdose on inhalants. An overdose occurs when a person uses too much of a drug and has a toxic reaction that results in serious, harmful symptoms or death.

These symptoms can cause seizures and coma. They can even be deadly. Many solvents and aerosol sprays are highly concentrated, meaning they contain a large amount of chemicals with a lot of active ingredients. Sniffing these products can cause the heart to stop within minutes. This condition, known as *sudden sniffing death*, can happen to an otherwise healthy young person the first time he or she uses an inhalant. Using

inhalants with a paper or plastic bag or in a closed area may cause death from suffocation (being unable to breathe).

How can an inhalant overdose be treated?

Because inhalant overdose can lead to seizures or cause the heart to stop, first responders and emergency room doctors try to treat the overdose by treating these conditions. They will try to stop the seizure or restart the heart.

Can inhalants cause addiction, a form of substance use disorder?

Although it's not very common, repeated use of inhalants can lead to addiction, a form of substance use disorder (SUD). An SUD develops when continued use of the drug causes issues, such as health problems and failure to meet responsibilities at work, school, or home. An SUD can range from mild to severe, the most severe form being addiction.

Those who try to quit inhalants may have withdrawal symptoms that include:

- nausea
- loss of appetite
- sweating
- problems sleeping
- mood changes

How can people get treatment for addiction to inhalants?

Some people seeking treatment for use of inhalants have found behavioral therapy to be helpful:

- Cognitive-behavioral therapy helps patients recognize, avoid, and cope with the situations in which they are most likely to use drugs.
- Motivational incentives uses vouchers or small cash rewards for positive behaviors such as staying drug-free.

More research is needed to identify the most effective treatment options for addiction to inhalants.

Points to Remember

- Although other substances that are misused can be inhaled, the term *inhalants* refers to the various substances that people typically take *only* by inhaling.
- Inhalants are various products easily bought and found in the home or workplace—such as spray paints, markers, glues, and cleaning fluids. They contain dangerous substances that have *psychoactive* (mind-altering) properties when inhaled.
- People who use inhalants breathe them in through the mouth (*huffing*) or nose.
- Most inhalants affect the central nervous system and slow down brain activity.
- Short-term health effects include slurred or distorted speech, lack of coordination, euphoria (feeling "high"), dizziness, and hallucinations.
- Long-term health effects may include liver and kidney damage, loss of coordination and limb spasms, delayed behavioral development, and brain damage.
- A person can overdose on inhalants. Because inhalant overdose can lead to seizures or cause the heart to stop, first responders and emergency room doctors try to stop the seizure or restart the heart.
- Although it's not very common, repeated use of inhalants can lead to addiction, a form of substance use disorder. Withdrawal symptoms include nausea, sweating, problems sleeping, and mood changes.