

Inhalants



The Alice Aycock Poe Center for Health Education

If you've ever come across a smelly marker, you've experienced an inhalant. They seem harmless, but they can actually be quite dangerous. Inhalants are chemical vapors that people inhale on purpose to get "high." The vapors produce mind-altering, and sometimes disastrous, effects. These vapors are in a variety of products common in almost any home or workplace.

Examples are some paints, glues, gasoline, and cleaning fluids. Many people do not think of these products as drugs because they were never meant to be used to achieve an intoxicating effect. But when they are intentionally inhaled to produce a "high," they can cause serious harm.

Although inhalants differ in their effects, they generally fall into the following categories:

Volatile Solvents, liquids that vaporize at room temperature, present in: Certain industrial or household products, such as paint thinner, nail polish remover, degreaser, dry-cleaning fluid, gasoline, and contact cement. Some art or office supplies, such as correction fluid, felt-tip marker fluid, and electronic contact cleaner.

Aerosols, sprays that contain propellants and solvents, include: Spray paint, hair spray, deodorant spray, vegetable oil sprays, and fabric protector spray

Gases, which may be in household or commercial products, or used as medical anesthetics, such as in: Butane lighters, propane tanks, whipped cream dispensers, and refrigerant gases. Anesthesia, including ether, chloroform, halothane, and nitrous oxide

Nitrites are a class of inhalants used primarily as sexual enhancers. Organic nitrites include amyl, butyl, and cyclohexyl nitrites and other related compounds. Amyl nitrite was used in the past by doctors to alleviate chest pain and is sometimes used today for diagnostic purposes in heart examinations. When marketed for illicit use, these nitrites are often sold in small brown bottles and labeled as "video head cleaner," "room odorizer," "leather cleaner," or "liquid aroma."

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What Are the Common Street Names?

Common slang for inhalants includes "laughing gas" (nitrous oxide), "snappers" (amyl nitrite), "poppers" (amyl nitrite and butyl nitrite), "whippets" (fluorinated hydrocarbons, found in whipped cream dispensers), "bold" (nitrites), and "rush" (nitrites).

Who Abuses Inhalants?

Inhalants are often among the first drugs that young adolescents abuse. In fact, they are one of the few classes of substances that are abused more by younger adolescents than older ones. Inhalant abuse can become chronic and continue into adulthood.

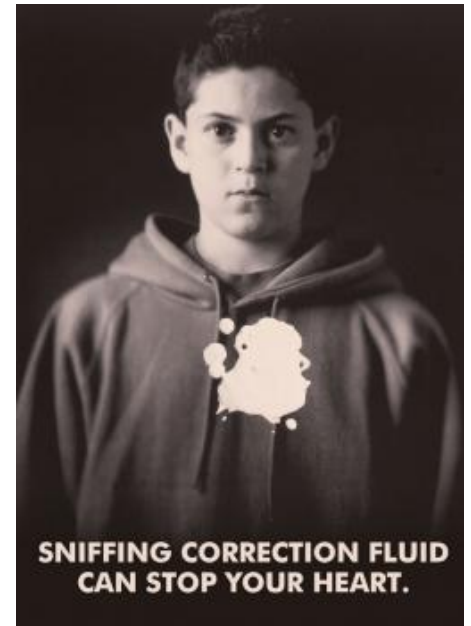
Data from national and state surveys suggest that inhalant abuse is most common among 7th through 9th graders. For example, in the Monitoring the Future study, an annual NIDA-supported survey of the Nation's secondary school students, 8th graders regularly report the highest rate of current, past-year, and lifetime inhalant abuse compared to 10th and 12th graders. In 2010, 8 percent of 8th graders, 5.7 percent of 10th graders, and 3.6 percent of 12th graders reported abusing inhalants in the year prior to the survey. One of the problems is that, according to the 2010 survey, 39 percent of 8th graders don't consider the regular use of inhalants to be harmful, and 64 percent don't think trying inhalants once or twice is risky. Young teens may not understand the risks of inhalant use as well as they should.

How Are They Abused?

People who abuse inhalants breathe in the vapors through their nose or mouth, usually in one of these ways:

- "Sniffing" or "snorting" fumes from containers
- Spraying aerosols directly into the nose or mouth
- Sniffing or inhaling fumes from substances sprayed or placed into a plastic or paper bag ("bagging")
- "Huffing" from an inhalant-soaked rag stuffed in the mouth
- Inhaling from balloons filled with nitrous oxide

Because the intoxication, or "high," lasts only a few minutes, people who abuse inhalants often try to make the feeling last longer by inhaling repeatedly over several hours.



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Long-Term Effects

Inhalants often contain more than one chemical. Some chemicals leave the body quickly, but others get absorbed by fatty tissues in the brain and central nervous system.

One of these fatty tissues is myelin, a protective cover that surrounds many of the body's nerve fibers, and helps nerve fibers carry their messages to and from the brain. Damage to myelin can slow down communication between nerve fibers. Long-term inhalant use can break down myelin. When this happens, nerve cells are not able to transmit messages as efficiently, which can cause muscle spasms and tremors or even permanent difficulty with basic actions like walking, bending, and talking. These effects are similar to what happens to patients with multiple sclerosis—a disease that also affects myelin.

Inhalants also can damage brain cells by preventing them from receiving enough oxygen. The effects of this condition, also known as brain hypoxia, depend on the area of the brain affected. The hippocampus, for example, helps control memory, so someone who repeatedly abuses inhalants may lose the ability to learn new things or may have a hard time carrying on simple conversations. If the cerebral cortex is affected, the ability to solve complex problems and plan ahead will be compromised. And, if the cerebellum is affected, it can cause a person to move slowly or clumsily. Inhalants can be addictive. Long-term use can lead to compulsive drug seeking and use, and mild withdrawal symptoms.

Regular abuse of inhalants can cause serious harm to vital organs besides the brain. Inhalants can cause heart damage, liver failure, and muscle weakness. Certain inhalants can also cause the body to produce fewer blood cells, which can lead to a condition known as aplastic anemia (in which the bone marrow is unable to produce blood cells). Frequent long-term use of certain inhalants can cause a permanent change or malfunction of peripheral nerves, called polyneuropathy.

Initial Effects

The lungs absorb inhaled chemicals into the bloodstream very quickly. Within minutes of inhalation, users feel "high." The effects are similar to those produced by alcohol and may include slurred speech, lack of coordination, euphoria, and dizziness. The high usually lasts only a few minutes.

With repeated inhalations, many users feel less inhibited and less in control. Some may feel drowsy for several hours and experience a lingering headache.

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If Inhalants Are Harmful, Why Do Kids Use Them?

Many kids think inhalants are a harmless, cheap, and quick way to "catch a buzz." Because many inhalants can be found around the house, kids may not even think they are harmful. But the chemicals in the inhalant vapors can change the way the brain works and cause other complications in the body. What kids often don't know is that, in some cases, the harmful effects of inhalants can be irreversible.

Are Inhalants Addictive?

Some people, particularly those who abuse inhalants a lot and for a long time, report a strong need to continue using inhalants. Compulsive use and a mild withdrawal syndrome can occur.

How Can I Tell if Someone Is Abusing Inhalants?

Sometimes you can't tell. Other times you might see small signs that tell you a person is abusing inhalants. They might have chemical odors on their breath or clothing; paint or other stains on their face, hands, or clothing; nausea or loss of appetite; weight loss; muscle weakness; disorientation; or inattentiveness, uncoordinated movement, irritability, and depression.

Lethal Effects

Prolonged sniffing of the highly concentrated chemicals can cause irregular or rapid heart rhythms and can lead to heart failure and death within minutes. This "sudden sniffing death" is particularly associated with the abuse of butane, propane, and chemicals in aerosols.

Users can also die from suffocation. This happens when the inhalant vapor takes the place of oxygen in the lungs and brain, causing breathing to stop. Deliberately inhaling from a paper or plastic bag or in a closed area greatly increases the chances of suffocation. Users can also die by choking on their own vomit or by fatal injury from accidents, including car crashes.

