

# INTELLIGENCE BRIEF

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## **Huffing** The Abuse of Inhalants

**The abuse of inhalants is widespread across the United States; however, it may be underreported because law enforcement officials and healthcare providers are often unfamiliar with the signs of inhalant abuse. Abusers, primarily adolescents, inhale chemical vapors from a variety of substances, many of which are common household products. These young people abuse inhalants in order to obtain a euphoric effect and are often unaware of the potential risks, which include brain damage and death. Some adults also abuse inhalants, particularly nitrites. Adult abusers often inhale substances in order to enhance their sexual experiences.**



*Photo courtesy of DEA*

### **Introduction**

Inhalant abuse, commonly called huffing, is the purposeful inhalation of chemical vapors to achieve an altered mental or physical state, which for most abusers is a euphoric effect. Abusers inhale vapors emitted from a wide range of substances. In fact, chemical vapors used as inhalants can be found in over 1,000 common household products. There are several general categories for substances that may be used as inhalants:

**Volatile solvents** are liquids that vaporize at room temperature if left in unsealed containers. Paint thinner, gasoline, correction fluid, felt-tip markers, nail polish and remover, and glue (such as rubber cement) all contain volatile solvents.

**Aerosols** are sprays that contain propellants and solvents such as toluene—one of the most common solvents found in aerosols. Common aerosols include paint, deodorant, hair products, cooking products, and fabric protector. Silver and gold spray paint are particularly popular among inhalant abusers.

**Gases** are substances that lack definite shape or volume such as refrigerants and medical anesthetics.

Abusers frequently inhale gases found in butane lighters, air conditioning units, and propane tanks. Medical anesthetics such as ether, chloroform, and nitrous oxide are also abused. Nitrous oxide, commonly called laughing gas, is abused more frequently than any other gas. It can be obtained from whipped cream dispensers or products that boost octane levels in racing cars. It may also be purchased in balloons or in small, sealed vials called whippets, which are sold at raves or drug paraphernalia stores.

**Nitrites** are a group of chemicals including cyclohexyl nitrite, amyl nitrite, and butyl nitrite. Nitrites are used mainly to enhance sexual experiences rather than to achieve a euphoric effect. Cyclohexyl nitrite is found in room deodorizers. Amyl nitrite comes in small, mesh-covered, sealed capsules that are popped or snapped in order to release the vapors. Because of this popping or snapping, these capsules are frequently called poppers or snappers. Butyl nitrite is often sold in small bottles that, like amyl nitrite capsules, are referred to as poppers. Nitrites are available in adult bookstores and shops and over the Internet.

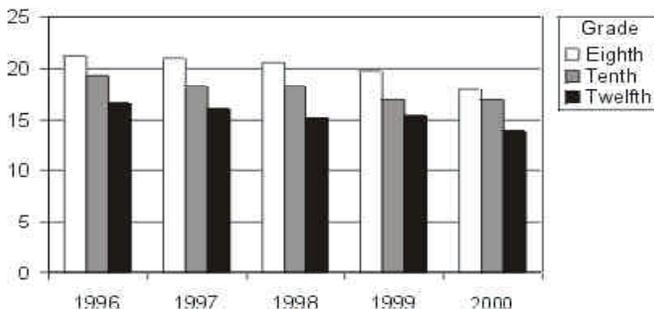
## Who abuses inhalants?

According to the 2000 National Household Survey on Drug Abuse, the number of new inhalant abusers rose approximately 158 percent from an estimated 392,000 in 1990 to 1,010,000 in 1999. The primary user group was composed of 12- to 17-year-olds—over 636,000 had tried inhalants for the first time in 1999. This number is more than double that of the 18- to 25-year-old user group (276,000.) Almost 17 million individuals have experimented with inhalants at some point in their lives.

Inhalants are the fourth most abused substances in the United States among eighth, tenth, and twelfth graders; alcohol, cigarettes, and marijuana are the top three, according to the 2000 Monitoring the Future Study. By the time adolescents reach the eighth grade, one in five has tried inhalants at least once. Prevalence of lifetime abuse has consistently been higher among eighth graders than among tenth and twelfth graders. In 2000, 18 percent of eighth graders, 17 percent of tenth graders and 14 percent of twelfth graders admitted having used inhalants at least once in their lifetime. Statistics showing higher lifetime use among eighth graders may be due to the fact that frequent inhalant abusers typically drop out of school and consequently do not participate in the tenth and twelfth grade surveys.

Data from the 1999 Youth Risk Behavior Survey (YRBS) indicate that 14.6 percent of students in grades 9 through 12 have abused inhalants at least once in their lifetime; 4.2 percent of the students reported having abused inhalants at least once in the 30 days preceding the survey. Males and females abused inhalants at nearly equal rates—14.7 percent

**Percentage of Lifetime Abuse of Inhalants**



Source: Monitoring the Future 2000.

of males and 14.6 percent of females admitted having used inhalants at least once in their lifetime. Similarly, 4.4 percent of males and 3.9 percent of females reported having used inhalants at least once in the 30 days preceding the survey.

## Adults Also Abuse Inhalants

While adolescents are the primary group abusing inhalants, a study by the Texas Commission on Alcohol and Drug Abuse (TCADA) found that adults also abuse inhalants. An analysis of 144 Texas death certificates involving misuse or abuse of inhalants from 1988 to 1998 indicates that the average age of those who suffered inhalant deaths was 25.6 with ages ranging from 8 to 62. In the same analysis of Texas death certificates, TCADA found that the most frequently mentioned inhalant (35%) was Freon (51 deaths). Of the Freon deaths, 42 percent were students or youth (mean age of 16.4 years), and 37 percent were involved in occupations where Freon was readily available.

Source: Texas Commission on Alcohol and Drug Abuse, *Substance Abuse Trends in Texas: June 2001*.

## Where are inhalants abused?

Inhalants are abused throughout the country. According to the 1999 YRBS, in 11 states the percentage of high school students who reported having used inhalants at least once in their lifetime exceeded the national average of 14.6 percent. The states having the highest percentage of inhalant abuse are West Virginia (20.4%), Tennessee (19.2%), Nevada (19.0%), Wyoming (17.6%), Ohio (17.1%), Arkansas (16.7%), Montana (16.5%), Wisconsin (16.2%), Alabama (16.1%), Michigan (15.6%), and North Dakota (15.5%).

## How are inhalants abused?

Inhalants are breathed in through the nose or mouth in a variety of ways. Abusers begin by inhaling deeply; they then take several more breaths. Abusers may inhale, by sniffing or snorting, chemical vapors directly from open containers or by huffing fumes from rags that are soaked in a chemical substance and then held to the face or stuffed in the mouth. Other methods include spraying aerosols directly into

the nose or mouth or pouring inhalants onto the user's collar, sleeves, or cuffs and sniffing them over a period of time (such as during a class in school). In a practice known as bagging, fumes are inhaled from substances sprayed or deposited inside a paper or plastic bag. Alternatively, the fumes may be discharged into small containers such as soda cans and then inhaled from the can. Users may also inhale from balloons filled with nitrous oxide or other devices such as snappers and poppers in which inhalants are sold.

### Signs of Abuse

- **Drunk or disoriented appearance**
- **Paint or other stains on face, hands, or clothing**
- **Hidden empty spray paint or solvent containers and chemical-soaked rags or clothing**
- **Slurred speech**
- **Strong chemical odors on breath or clothing**
- **Nausea or loss of appetite**
- **Red or runny nose**
- **Sores or rash around the nose or mouth**

Source: National Institute on Drug Abuse, Research Report Series, *Inhalant Abuse*, 10 May 2001.

### What are the effects?

For most users, inhalant abuse results in a rapid euphoric effect that is similar to alcohol intoxication. Users experience initial excitation, then drowsiness, lightheadedness, and agitation. Inhalant abusers also report feeling a loss of inhibitions. The chemicals found in volatile solvents, aerosols, and gases produce a variety of additional effects during or shortly after use that include dizziness, strong hallucinations, delusions, belligerence, apathy, and impaired judgment. Additional symptoms exhibited by long-term inhalant abusers include weight loss, muscle weakness, disorientation, inattentiveness, lack of coordination, irritability, and depression. Withdrawal symptoms include sweating, rapid pulse, hand tremors, insomnia, nausea or vomiting, hallucinations, and, in severe cases, grand mal seizures.

While abusers of other inhalants seek a euphoric effect, nitrite abusers—who tend to be adults rather than adolescents—seek to enhance the sexual experience. Inhaled nitrites dilate blood vessels, increase heart rate, and produce a sensation of heat and excitement that can last for several minutes. According to the National Institute on Drug Abuse, use of these drugs is associated with unsafe sexual practices that greatly increase the risk of contracting and spreading infectious diseases such as HIV/AIDS and hepatitis.

Chronic inhalant abuse may result in serious and sometimes irreversible damage to the user's heart, liver, kidneys, lungs, and brain. Brain damage may result in personality changes, diminished cognitive functioning, memory impairment, and slurred speech.

Death from inhalant abuse can occur after a single use or after prolonged use. Sudden sniffing death (SSD) may result within minutes of inhalant abuse from irregular heart rhythm leading to heart failure. Other causes of death include asphyxiation, aspiration, or suffocation. A user who is suffering from impaired judgment may also experience fatal injuries from motor vehicle accidents or sudden falls.

According to Drug Abuse Warning Network (DAWN) Medical Examiner data, inhalants were a factor in over 500 deaths in the United States from 1996 to 1999. Medical examiner data provided by DAWN cover only 40 metropolitan areas in the United States; thus, many inhalant-related deaths across the country are not reflected in DAWN data.

### Street Terms for Inhalants

<b>Amys</b>	<b>Head cleaner</b>
<b>Bang</b>	<b>Hippie crack</b>
<b>Bolt</b>	<b>Kick</b>
<b>Boppers</b>	<b>Locker room</b>
<b>Bullet</b>	<b>Poor man's pot</b>
<b>Climax</b>	<b>Poppers</b>
<b>Glading</b>	<b>Rush</b>
<b>Gluey</b>	<b>Snappers</b>
<b>Hardware</b>	<b>Toncho (octane booster)</b>

Source: Office of National Drug Control Policy (ONDCP), *Drug Policy Information Clearinghouse Fact Sheet—Inhalants*, June 2001.

## Outlook

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Easy accessibility and the relatively low cost of the substances abused indicate that inhalant abuse will attract new users and continue to be a problem in the United States. Authorities have recognized the problem of inhalant abuse; 46 states (excluding Alabama, Arkansas, Montana, and Wyoming) and the Commonwealth of the Northern Mariana Islands have enacted laws to address the issue. Inhalants are dangerous poisons that were never designed for human consumption. Prevention and information campaigns will increase awareness of the negative effects of inhalant abuse and may help to make this practice less appealing to our nation's youth.

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