

INHALANTS

By: Jonathan Agley and Matthew Lee Smith, M.P.H.

THE DRUG

“Inhalants” is the generalized name given to a range of common household products, such as glue, magic markers, gasoline, hair spray, and aerosol products (usually whipping cream cans), that have the potential to be misused. The name “inhalants” is derived from the fact that the most common manner of abuse involves sniffing or concentrating and inhaling the fumes produced by these products. Nearly all of the products involved in inhalant abuse can be legally purchased by anyone (there are no legal restrictions on their sale), making the regulation of inhalants very difficult.

Although slang terms for inhalants vary with each product, there are a few somewhat generalized street-names, such as huff, bang, highball, moon gas, poor man’s pot, spray, and kick.

Inhalants aren’t restricted exclusively to household products; the category also encompasses more elusive substances, such as nitrous oxide, which is often contained in balloons in order to provide for easy inhalation, and is “the most popular [inhalant]... among young adults.”

APPEARANCE

Inhalants’ forms are as varied as the products that can be abused. Many products (such as markers) are small and can be easily concealed. Paraphernalia can include rags, socks, paper bags, and balloons, but these products aren’t necessary components of inhalant abuse.

USERS

Nationally, users of inhalants range across all ages, although 47.4% of those people who reported “Inhalant Use in the Past Month” on the National Survey on Drug

Use and Health (2002) were between the ages of twelve and seventeen. More than half of the survey participants who reported inhalant use in the past month were male, and 65.2% of respondents who reported inhalant use in the past month were white and of non-Hispanic origin.

INCIDENCE AND PREVALENCE

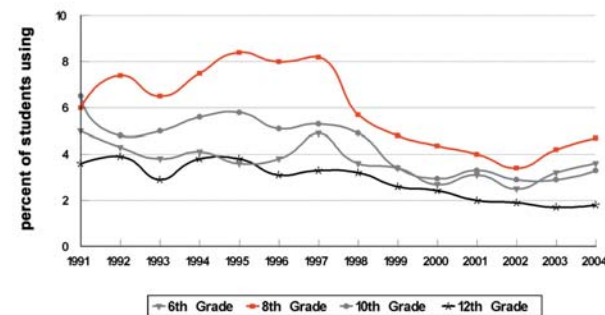
The 2003 Alcohol, Tobacco, and Other Drug (ATOD) Use Survey conducted by the Indiana Prevention Resource Center (IPRC) reported that 3.1% of Indiana students in grades six through twelve abused inhalants on a monthly basis, with rates of abuse ranging from one to five times (2.4%) to over forty times (.1%).

In a study published by Denise D. Walker et al. in the journal Addictive Behaviors and designed to produce a developmental sequence of drug abuse, a study group of adults with a history of drug abuse was assessed. The average age at which they began using inhalants was 14.40 years, which is slightly over half of a year before they started using marijuana.

While these results indicate that inhalants are often abused earlier in a drug progression sequence than marijuana (and thus deserve further consideration as “gateway” drugs), they also give us cause to further examine the prevalence rates for inhalants among students in middle school (due to the average age of the onset of inhalant use).

According to the 2004 ATOD Use Survey, the past two years have seen statistically significant increases in the monthly use of inhalants for both sixth and eighth grade students. In 2002, 2.5% of sixth graders and 3.4% of eighth graders reported monthly use of inhalants, and in 2004, those statistics had risen to 3.6% and 4.8%, respectively.

Trend of Monthly Inhalant Use among Indiana Students: 1991-2004



Source: 2004 ATOD Survey, Indiana Prevention Resource Center

EFFECTS

Always relatively short, the length of the high produced by inhalant use can vary slightly with the amount of substance inhaled. Short-term side effects of inhalant use include: nausea, loss of inhibition, loss of appetite, slurred speech, seizures, vomiting, and unconsciousness. In extreme cases, the irregular heart rate that can result from inhalant use can be fatal; this is known as sudden sniffing death syndrome. The specific substances most commonly associated with sudden death syndrome are butyl nitrate (“Poppers”), butane, Freon, and trichloroethylene (an ingredient in degreasers). Butane and petrol are also associated with a risk for burn-related injuries, because users may not be aware (or may have reduced awareness) of the dangers of smoking cigarettes or using open flames near these flammable substances. Abuse of Nitrous Oxide can also be fatal, but this is usually due to a lack of oxygen flow to the brain rather than sudden sniffing death syndrome.

Long-term effects include nausea and lack of appetite, as well as irritability. Consistent use over a long period of time can result in liver damage, kidney damage, reproductive complications, and suppressed immunologic function. In addition, according to research findings published in NIDA Notes (Vol. 17, No. 4), “chronic inhalant abuse has long been linked to widespread brain damage and cognitive abnormalities that can range from mild impairment to severe dementia...[in a study comparing chronic solvent users to cocaine users], more solvent abusers

INHALANTS

than cocaine abusers had abnormalities in each of four brain structures... the thalamus, basal ganglia, pons, and cerebellum.”

PREVENTION

Because inhalants can reside in a body's system for several weeks, detoxification periods often range from weeks to slightly longer than a month, as it is important to ensure that the toxins no longer reside in the system. Treatment programs are often ineffective before detoxification has been completed. Traditional drug treatment programs rarely address inhalants as an individual problem, as they are often abused concurrently with other drugs.

Treatment should place a significant amount of focus on lifestyle changes, as many of the factors involved in inhalant abuse can be changed: a shift in peer groups is often important, as is continued support during the rehabilitation process to ensure that a relapse does not occur.

REFERENCES

Bailey, W.J. et al. (2003). *Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents: The Indiana Prevention Resource Center Survey – 2003* (IDAP Monograph No. 03-03). Bloomington, IN: Indiana Prevention Resource Center.

Center for Substance Abuse Treatment. (March 2003) *Inhalants. Substance Abuse Treatment Advisory*, 3.1. Retrieved February 11, 2004, from: <http://ncadi.samhsa.gov/govpubs/ms922>.

Jones-McKyer, E.L. et al. (2004). *Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents: The Indiana Prevention Resource Center Survey – 2004* (IDAP Monograph No. 04-03). Bloomington, IN: Indiana Prevention Resource Center.

Mathias, Robert (November 2002). Chronic Solvent Abusers Have More Brain Abnormalities and Cognitive Impairments Than Cocaine Abusers. *NIDA Notes*, 17.4. Retrieved July 15, 2004, from: http://www.drugabuse.gov/NIDA_notes/NNV017N4/Chronic.html.

Research Report Series – Inhalant Abuse. (n.d.) Retrieved February 5, 2004, from: <http://www.nida.nih.gov/ResearchReports/Inhalants/Inhalants4.html>.

Substance Abuse and Mental Health Services Administration. (2003). *Results from the 2002 National Survey on Drug Use and Health: National Findings* (Office of Applied Studies, NHSDA Series H-22, DHHS Publication No. SMA 03-3836). Rockville, MD.

Walker, Denise D., Venner, K., Hill, D.E., Meyers, R.J., Miller, W.R. (2004). A comparison of alcohol and drug disorders: Is there evidence for a developmental sequence of drug abuse? *Addictive Behaviors*, 29, 817-823.

STAFF

Editor-in-Chief: JoBeth McCarthy-Jean, M.P.H.
Copy Editor: Jonathan Agle
Layout Editor: Joshua Pugh, B.A.

Indiana Prevention Resource Center

Indiana University

Creative Arts 110

2735 East 10th Street

Bloomington, IN 47408-2602

Phone: 812.855.1237

Toll Free in Indiana: 1.800.346.3077

FAX: 812.855.4940

E-Mail: drugprc@indiana.edu

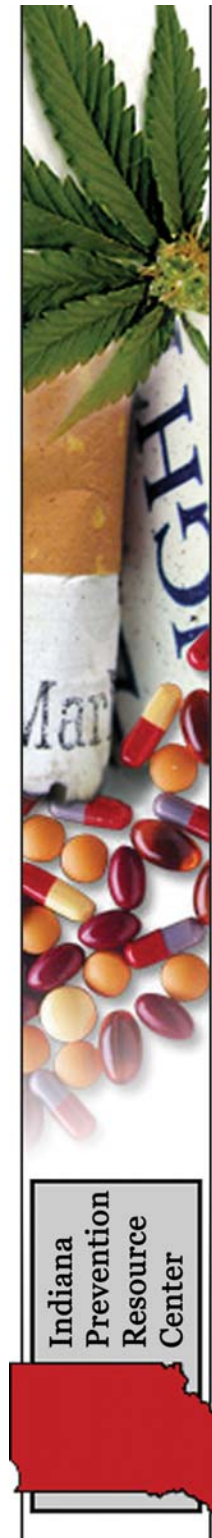
WWW: <http://www.drugs.indiana.edu/>

The Indiana Prevention Resource Center at Indiana University is funded, in part, by a contract with the Indiana Family and Social Services Administration, Division of Mental Health and Addiction. The IPRC is operated by the Department of Applied Health Science and the School of Health, Physical Education and Recreation. Opinions expressed herein are those of the authors, and not necessarily those of the Trustees of Indiana University or the Division of Mental Health and Addiction. Indiana University accepts full responsibility for the content of this publication. ©2004 The Trustees of Indiana University. Permission is extended to reproduce this Factline for non-profit educational purposes. All other rights reserved.



School of Health
Physical Education
& Recreation

INDIANA UNIVERSITY



Indiana
Prevention
Resource
Center

Factline

2735 E. 10th St. Rm. 110, Creative Arts
Bloomington, IN 47408-2602

Phone: 812.855.1237

Toll Free in Indiana: 1.800.346.3077

Fax: 812.855.4940

E-Mail: drugprc@indiana.edu

WWW: <http://www.drugs.indiana.edu/>

Inhalants