

# Inhalants/Aerosols

## Inhalants/Aerosols

Glue, gassing, sniffing, chemo, snappers.

Amyl and butyl nitrites (pearls, poppers, rush, locker room, bolt, kix).

Nitrous oxides (laughing gas, balloons, whippets).<sup>1</sup>

### Substances abused include;

Volatile gases: butane, propane, aerosol propellants

Solvents: Airplane glue, gasoline, toluene, printing fluid, cleaning solvents, benzene, acetone, spray paint

Aerosols: deodorants, hair spray, Freon

Anaesthetic gases: Nitrous oxide, chloroform, ether<sup>1</sup>



<p><b>Characteristics</b></p>	<ul style="list-style-type: none"> <li>Inhaled product enters the bloodstream quickly via the lungs and CNS penetration is rapid<sup>1</sup></li> <li>Intoxication occurs within minutes and can last from a few minutes to an hour<sup>1</sup></li> <li>Tolerance develops to desired effect psychological dependence is frequent<sup>1</sup></li> </ul>
<p><b>Presentation during intoxication<sup>1</sup></b></p>	<p><b>Common signs and symptoms of intoxication can include:</b></p> <ul style="list-style-type: none"> <li>Drowsiness</li> <li>Dizziness</li> <li>Slurred speech</li> <li>Impaired motor function</li> <li>Muscle weakness</li> <li>Cramps</li> <li>Light sensitivity</li> <li>Headache</li> <li>Nausea or vomiting</li> <li>Salivation</li> <li>Sneezing</li> <li>Coughing</li> <li>Wheezing</li> <li>Decreased breathing and heart rate</li> <li>Hypotension</li> <li>Cramps</li> <li>Changing levels of awareness</li> <li>Impaired judgment and memory</li> <li>Loss of inhibitions</li> <li>Hallucinations</li> <li>Euphoria</li> <li>Excitation</li> <li>Vivid fantasies</li> <li>Feeling of invincibility</li> <li>Delirium</li> </ul> <p><b>Extreme intoxication signs and symptoms may include<sup>1</sup>:</b></p> <ul style="list-style-type: none"> <li>Acute and chronic effects reported (e.g ataxia, peripheral neuropathy)</li> <li>MI may occur, primarily with use of halogenated solvents</li> <li>Acidosis and hypokalemia</li> <li>Hepatitis and hepatic necrosis</li> <li>Bone marrow suppression (primarily with benzene and nitrous oxide use)</li> </ul>
<p><b>Monitoring and support during intoxication<sup>5</sup></b></p>	<p><b>Monitor</b></p> <ul style="list-style-type: none"> <li>Vital signs</li> <li>Mental status</li> <li>Electrolytes</li> </ul> <p><b>Supportive Interventions</b></p> <ul style="list-style-type: none"> <li>Use calming techniques and reassurance</li> </ul>
<p><b>Withdrawal presentation</b></p>	<p>***After long periods of use, it has been found some inhalant users may experience a withdrawal syndrome comparable to delirium tremens (DTs) that occurs in individuals withdrawing from alcohol.<sup>4</sup></p> <p><b>Other symptoms can include<sup>2,3,4</sup></b></p> <ul style="list-style-type: none"> <li>Insomnia,</li> <li>Muscle tremors and cramps</li> <li>Tremors,</li> <li>Hallucinations</li> <li>Nausea</li> <li>Excessive sweating</li> <li>Extreme confusion,</li> <li>Anxiety</li> <li>Seizures</li> <li>Headache</li> <li>Depression</li> <li>Irritability</li> <li>Dizziness</li> <li>Craving for drug</li> </ul>

	<p>***There is much variability in the chemicals being used and the doses received; therefore, it is impossible to predict exact symptoms for each user undergoing withdrawal.<sup>4</sup></p>
<b>Monitoring and support during withdrawal</b>	<p>Effects are usually short lasting<sup>1</sup></p> <ul style="list-style-type: none"> <li>• Use calming techniques</li> <li>• Reassurance</li> </ul>
<b>Potential Complications</b>	<p>High doses can lead to loss of consciousness, convulsions, cardiac arrhythmia, seizures, and death.<sup>1</sup></p> <p>Chronic use can lead to;</p> <ul style="list-style-type: none"> <li>• Fatigue</li> <li>• Chronic headache</li> <li>• Encephalopathy</li> <li>• Hearing loss</li> <li>• Visual impairment</li> <li>• Sinusitis</li> <li>• Rhinitis</li> <li>• Laryngitis</li> <li>• Weight loss</li> <li>• Kidney and liver damage</li> <li>• Bone marrow damage</li> <li>• Cardiac arrhythmias</li> <li>• Chronic lung disease</li> </ul>
<b>Drug interactions</b>	<p>With CNS Depressants</p> <ul style="list-style-type: none"> <li>• Increased impairment of judgment, distortion of reality<sup>1</sup></li> <li>• Can dangerously suppress the central nervous system.<sup>4</sup></li> </ul> <p>With Alcohol, Benzodiazepines, Hypnotics and Narcotics<sup>1</sup></p> <ul style="list-style-type: none"> <li>• Increased impairment of judgement</li> <li>• Distortion of reality</li> </ul>
<b>Psychiatric effects</b>	<p>Chronic use can lead to inability to think clearly memory disturbances, depression, irritability, agitation, and paranoia<sup>1</sup></p> <p>Inhalant use has also been associated with sleep disorders, delirium, and mood disorders<sup>4</sup></p>

### References

1. Bezchlibnyk-Butler, K., Jeffries, J., Procyshyn, R., Virani, A. (2014). Clinical Handbook of Psychotropic Drugs (20th ed). Hogrefe Publishing
2. CAMH, Knowledge Exchange, Taken on March 30, 2015 from [http://knowledgex.camh.net/primary\\_care/guidelines\\_materials/Pregnancy\\_Lactation/Pages/per\\_inhalants.aspx](http://knowledgex.camh.net/primary_care/guidelines_materials/Pregnancy_Lactation/Pages/per_inhalants.aspx)
3. Inhalants. 2012. Taken on March 30<sup>th</sup>, 2015 from <http://drugabuse.ca/inhalants>
4. Beyond the Basics. Inhalants. Addiction Foundation of Manitoba. Taken on March 30, 2015 from [http://afm.mb.ca/wp-content/uploads/woocommerce\\_uploads/2013/03/InhalantsBTB.pdf](http://afm.mb.ca/wp-content/uploads/woocommerce_uploads/2013/03/InhalantsBTB.pdf)
5. Townsend, M.C. (2015). *Psychiatric Nursing: Assessment, Care Plans, and Medications*. Oklahoma: F.A. Davis Company.