



WHAT IS IN SECONDHAND SMOKE?

What is in Cigarette Smoke?

Cigarette smoke is toxic soup of more than 7,000 known chemical compounds.¹ Secondhand smoke is composed of sidestream smoke (the smoke released from the burning end of a cigarette) and exhaled mainstream smoke (the smoke exhaled by the smoker).² According to a November 2001 report issued by the National Cancer Institute,³ there are 69 known or probable carcinogens in cigarette smoke.⁴ The complete list of these carcinogens appears in the table below.

<u>LIST OF KNOWN, PROBABLE, & POSSIBLE CANCER CAUSING CHEMICALS IN SECONDHAND SMOKE</u>	
<u>Polycyclic Aromatic Hydrocarbons</u> Benz(a)anthracene Benzo(b)fluoranthene Benzo(j)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Dibenz(a,h)anthracene Dibenzo(a,l)pyrene Dibenzo(a,e)pyrene Indeno(1,2,3-cd)pyrene 5-Methylchrysene	<u>Miscellaneous Organic Compounds</u> Acetamide Acrylonitrile DDT Catechol 1,1-Dimethylhydrazine 2-Nitropropane Ethyl carbamate Ethylene oxide Propylene oxide Methyleugenol MeAaC (2-amino-3-methyl-9- <i>H</i> -pyrido[2,3- <i>b</i>]indole)
<u>N-Nitrosamines</u> N-Nitrosodimethylamine N-Nitrosoethylmethylamine N-Nitrosodiethylamine N-Nitrosodi-n-propylamine N-Nitroso-di-n-butylamine N-Nitrosopyrrolidine N-Nitrosopiperidine N-Nitrosodiethanolamine N-Nitrososornicotine 4-(Methylnitrosamino)-1-(3pyridyl)-1-butanone	<u>Inorganic Compounds</u> Hydrazine Arsenic Beryllium Nickel Chromium (only hexavalent) Cadmium Cobalt Lead Polonium-210
<u>N-Heterocyclic Amines</u> AaC Trp-P-1 Glu-P-1 PhIP IQ Trp-P-2 Glu-P-2	<u>Aldehydes</u> Formaldehyde Acetaldehyde
<u>Volatile Hydrocarbons</u> 1,3-Butadiene Isoprene Benzene Styrene	<u>Heterocyclic Compounds</u> Quinoline Dibenz(a,j)acridine Dibenzo(c,g)carbazole Benzo(b)furan Dibenz(a,h)acridine Furan
<u>Aromatic Amines</u> 2-Toluidine 2-Naphthylamine 2,6-Dimethylaniline 4-Aminobiphenyl	

Not surprisingly, given these ingredients, the scientific evidence on the health risks associated with exposure to secondhand smoke is clear, convincing, and overwhelming. Secondhand smoke (also referred to as involuntary smoking, environmental tobacco smoke, and passive smoking) is a known cause of lung cancer, heart disease, low birth-weight births, more severe asthma in children, as well as other health problems. About 19,300 adult nonsmokers die every year in the United States from heart disease and lung cancer caused by exposure to secondhand smoke.⁵ CDC also previously reported that secondhand smoke exposure causes more than 8,000 deaths from stroke annually.⁶

Campaign for Tobacco-Free Kids, December 2024

More information on Secondhand Smoke and Smoke-Free Laws is available at
http://www.tobaccofreekids.org/facts_issues/fact_sheets/policies/secondhand_smoke/.

¹ U.S. Department of Health and Human Services (HHS), *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking Attributable Disease: A Report of the Surgeon General*, HHS, U.S. Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2010.

² HHS, *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*, HHS, CDC, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2006.

³ National Cancer Institute (NCI), *Risks Associated with Smoking Cigarettes with Low Machine-Measured Yields of Tar and Nicotine*, Smoking and Tobacco Control Monograph No. 13, Bethesda, MD: HHS, National Institutes of Health, National Cancer Institute, NIH Pub. No. 02-5074, October 2001, http://dcccps.nci.nih.gov/tcrb/monographs/13/m13_5.pdf.

⁴ NCI, *Risks Associated with Smoking Cigarettes with Low Machine-Measured Yields of Tar and Nicotine*, Smoking and Tobacco Control Monograph No. 13, Bethesda, MD: HHS, National Institutes of Health, National Cancer Institute, NIH Pub. No. 02-5074, October 2001, http://dcccps.nci.nih.gov/tcrb/monographs/13/m13_5.pdf.

⁵ U.S. Department of Health and Human Services (HHS). *Eliminating Tobacco-Related Disease and Death: Addressing Disparities—A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2024. <https://www.cdc.gov/tobacco-surgeon-general-reports/about/2024-end-tobacco-disparities.html>.

⁶ U.S. Department of Health and Human Services. *The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014:666. <http://www.surgeongeneral.gov/library/reports/50-years-of-progress/index.html>