

Connecticut Department of Public Health Fact Sheet

Tobacco Control Program | December 2022

SECONDHAND TOBACCO SMOKE AND AEROSOL

What Are Secondhand Tobacco Smoke and Aerosol...?



SECONDHAND TOBACCO SMOKE

is the combination of smoke emitted from any type of combustible tobacco product, like cigarettes, cigars, pipes and hookahs, and the smoke breathed out by the smoker¹



AEROSOL

is the byproduct from heating up a liquid, usually containing flavorings and other chemicals, in an electronic vaping device, like e-cigs, mods and tanks, and emitted when the user exhales²

Dangers of Secondhand Smoke: The US Surgeon General has determined there is no safe level of exposure to secondhand smoke. Even brief exposure can be harmful to the health of nonsmokers. Tobacco smoke contains over 7,000 chemicals, hundreds that are toxic and at least 70 that are known to cause cancer.³

Toxic Chemicals Found in Secondhand Smoke:

The following are a some of the toxic chemicals found in tobacco smoke:⁴

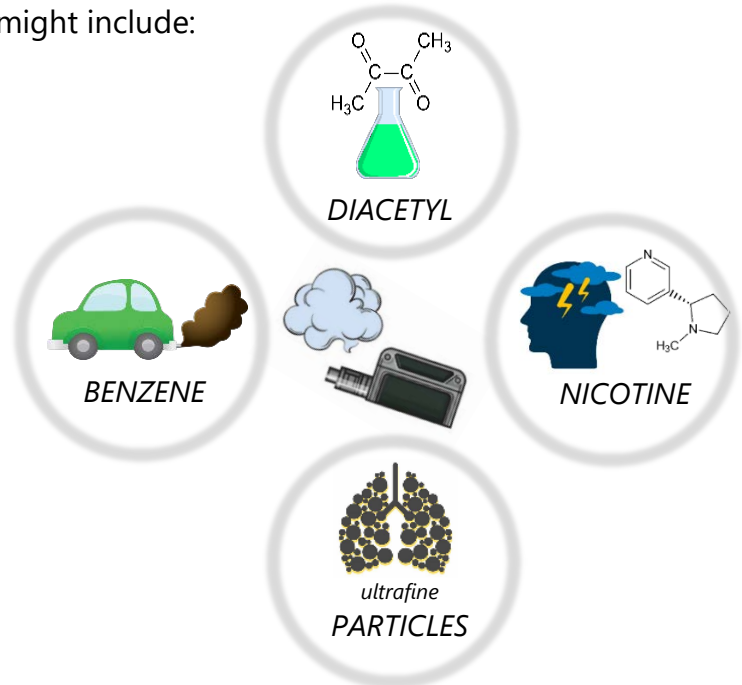
- **CADMIUM** – used in batteries
- **BENZENE** – found in gasoline
- **TOLUENE** – used in industrial solvents
- **AMMONIA** – found in household cleaners
- **BUTANE** – used in lighter fluid



In 2021, about 1 in 3 Connecticut high school students reported exposure to secondhand tobacco smoke or aerosol in the past seven days⁵

Dangers of Aerosol: Many people believe that secondhand aerosol (also referred to as vapor) from electronic nicotine delivery systems (ENDS), such as e-cigarettes (or cig-a-likes), vape pens, mods, pods and tanks, is only water. They are wrong. The aerosol emitted when an ENDS user exhales contains a mixture of toxins and harmful substances, which might include:

- **DIACETYL** – a chemical that can cause the development of a rare, life-threatening form of non-reversible obstructive lung disease^{6,7}
- **NICOTINE** – an addictive substance that fundamentally changes brain chemistry and function^{6,8}
- **ULTRAFINE PARTICLES** – pollutants that persist and travel in the air and can be inhaled deeply into the lungs^{6,9}
- **BENZENE** – a carcinogen found in car exhaust and tobacco smoke⁶



Secondhand Cannabis Smoke Risks: There is a misconception that the smoke produced from burning cannabis, also referred to as marijuana, weed, pot or dope, is harmless. This is not true. There are significantly higher levels of toxic compounds, such as ammonia and hydrogen cyanide, in secondhand cannabis smoke than are found in tobacco smoke.¹⁰

Cost of Tobacco Use and Secondhand Smoke Exposure: Annual healthcare costs for diseases related to tobacco use and secondhand smoke exposure are currently estimated at more than \$2 billion in Connecticut, and about \$521 million of those expenditures are for Medicaid.¹¹

How Does Secondhand Smoke Exposure Harm Non-Smokers...?¹²

Adults might experience:

- Cardiovascular disease like high blood pressure, atherosclerosis, heart attack or stroke
- Lung problems like COPD (chronic obstructive pulmonary disease) and asthma
- Increased risk of lung cancer and cancers of the brain, bladder, stomach, breast and more

Children are more likely to have:

- Coughing, sneezing, shortness of breath or other breathing problems
- Recurrent ear infections
- Frequent and more severe asthma attacks
- Respiratory infections, such as bronchitis or pneumonia
- Damage to eyes and teeth
- Learning and behavior problems
- SIDS (sudden infant death syndrome)



Banning all smoking activity is the only way to effectively eliminate the health risks associated with indoor exposure¹³

Connecticut has a comprehensive **Clean Indoor Air Act** that regulates where tobacco products can be smoked or used. New legislation was added in 2021 to further protect people from the dangers of secondhand smoke and aerosol. The update incorporates language for cannabis, hemp and tobacco, and covers vaping in addition to smoking. Beginning on October 1, 2021:

- All workplaces, large and small, must be smoke- and vape-free
- Large employers are no longer allowed to designate smoking rooms
- Smoking or vaping within 25-feet of any doorway, operable window or air intake vent is prohibited
- Smoking and vaping are not allowed in any a hotel, motel or similar lodging, or in any area of a correctional facility or halfway house

In 2021, about 374,000 or 15% of adults in Connecticut reported being exposed in the past seven days to the smoke or aerosol from someone who was smoking or vaping a tobacco product¹⁴



For More Information, Contact:
Connecticut Department of Public Health | Tobacco Control Program
410 Capitol Avenue, PO Box 340308, MS #11HLS
Hartford, CT 06134-0308
Call: 860-509-8251 or visit: www.ct.gov/DPH/Tobacco



References:

- ¹Secondhand Smoke (SHS) Facts. CDC.gov. https://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/general_facts/index.htm. [accessed 2022 Aug 15].
- ²LoRe, M. (2018). What Is Vaping? Everything You Need to Know. WebMD. [What Is Vaping? Everything You Need To Know \(webmd.com\)](https://www.webmd.com/what-is-vaping).
- ³U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. The Health Consequences of Smoking-50 Years of Progress: A Report of the Surgeon General. 2014.
- ⁴Nordqvist, C. (2015, July 13). What Chemicals Are in Cigarette Smoke? Medical News Today. <https://www.medicalnewstoday.com/articles/215420#1>.
- ⁵State of Connecticut Department of Public Health; Connecticut Youth Risk Behavior Survey, 2021.
- ⁶Broderick, SR. MD. What Does Vaping Do to Your Lungs? <https://www.hopkinsmedicine.org/health/wellness-and-prevention/what-does-vaping-do-to-your-lungs>.
- ⁷K.E. Faralinos. (2017). From Contents to Chemical and Particle Exposure Profiles 2017, Pages 75-122 Science Direct, Chapter 5 - Review of Compounds of Regulatory Concern. <https://www.sciencedirect.com/science/book/9780128112410>
- ⁸Nicotine Side Effects. Tobacco Free Life (TFL). <https://tobaccofreelife.org/why-quit-smoking/smoking-effects/nicotine-effects/> [accessed 6 Sep 2022].
- ⁹Charlene Nguyen, Liqiao Li, Chanbopha Amy Sen, Emilio Ronquillo, Yifang Zhu. (August 2019). Science Direct. Fine and ultrafine particles concentrations in vape shops; Atmospheric Environment, vol. 211; 159-169.
- ¹⁰Moir, D, Rickert, WS, Levasseur, G, Larose, Y, Maertens, R, White, P, and Desjardins, S (2008). A comparison of mainstream and sidestream marijuana and tobacco cigarette smoke produced under two machine smoking conditions. Chem Res Toxicol 21: 494-50.
- ¹¹The Community Preventive Services Task Force. (2013). Reducing Tobacco Use and Secondhand Smoke Exposure: Smoke-Free Policies. <https://thecommunityguide.org/index.html>.
- ¹²Secondhand Smoke: Dangers (2020, Oct 09). Cleveland Clinic Health Library Articles. [Dangers of Secondhand Smoke: Risks and Prevention \(clevelandclinic.org\)](https://my.clevelandclinic.org/health/diseases/17282-secondhand-smoke).
- ¹³ASHRAE Position Document on Environmental Tobacco Smoke. (2010). American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc. Reaffirmed June 29, 2016.
- ¹⁴State of Connecticut Department of Public Health; Connecticut Behavioral Risk Factor Surveillance System, 2021.