



# Tobacco Fact Sheet

## E-Cigarettes

**Keep Tobacco Sacred, Honor Your Health, Honor Your Nation**

### Numbers at a Glance

**\$2,475,000,000**

*Electronic cigarette sales in the last year.*

**75%**

*Of youth using e-cigarettes smoke traditional cigarettes as well.*

**10 years**

*Ago electronic cigarettes were introduced in the US. Little research exists, and negative health effects may not be known for up to 10 years.*

**5 to 15 times higher**

*The amount of exposure to formaldehyde from e-cigarette use than from smoking cigarettes.*



## What are Electronic Cigarettes?

Electronic cigarettes, also known as e-cigarettes or vapor cigarettes, are battery-operated devices that resemble traditional cigarettes. However, instead of burning tobacco, they generally contain cartridges filled with nicotine and other chemicals. When the e-cigarette is used, the liquid chemicals in the cartridge are turned into a vapor or steam that is inhaled by the smoker.



E-cigarette in use.

Among all of the alternative tobacco products, e-cigarettes are the least regulated. They have no warning labels and can be sold to people of any age. The FDA has not approved e-cigarettes as a way to quit smoking. People with cancer who want to quit smoking should use approved quitting methods.

According to one analysis by the U.S. Food and Drug Administration (FDA), the tobacco solution used in e-cigarettes contains a toxic chemical found in antifreeze and several cancer-causing chemicals, such as nitrosamines. Little more is known about the types or concentrations of chemicals, including nicotine, in e-cigarettes. However, the chemicals in e-cigarettes, the potential harmful effects, and the addictiveness vary based on the brand.

Most e-cigarettes are manufactured to look like conventional cigarettes,

cigars, or pipes. Some resemble everyday items such as pens and USB memory sticks.

The FDA has not evaluated any e-cigarettes for safety or effectiveness. When the FDA conducted limited laboratory studies of certain samples, the FDA found significant quality issues that indicate that quality control processes used to manufacture these products are substandard or non-existent. The FDA found that cartridges labeled as containing no nicotine contained nicotine and that three different electronic cigarette cartridges with the same label emitted a markedly different amount of nicotine with each puff. Experts have also raised concerns that the marketing of products such as e-cigarettes can increase nicotine addiction among young people and may lead kids to try other tobacco products.

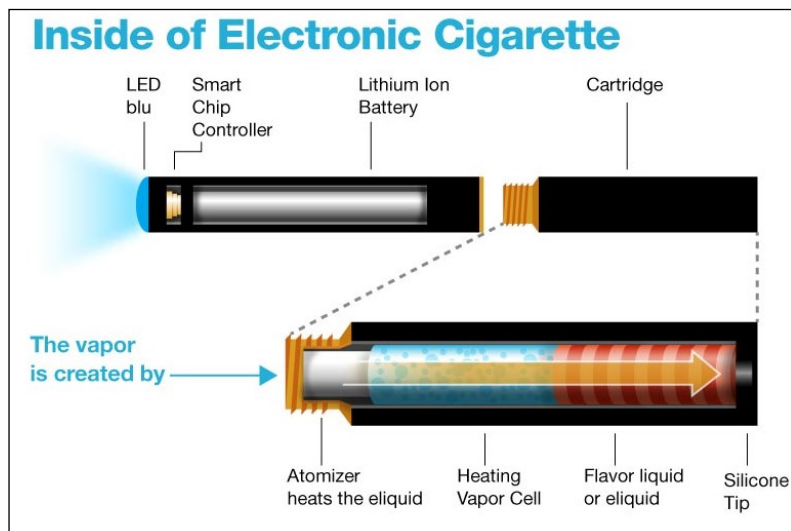
Source: [www.fda.gov](http://www.fda.gov)

# How do E-cigarettes Work?

Most e-cigarettes consist of three different components, including:

- A cartridge, which holds a liquid solution containing varying amounts of nicotine, flavorings, and other chemicals
- A heating device (vaporizer)
- A power source (usually a battery)

In many e-cigarettes, puffing activates the battery-powered heating device, which vaporizes the liquid in the cartridge. The resulting aerosol or vapor is then inhaled (called "vaping").



Inside of an E-cigarette

# Are E-cigarettes Safer than Conventional Cigarettes?

Cigarette smoking remains the leading preventable cause of sickness and mortality, responsible for over 400,000 deaths in the United States each year. The worst health consequences associated with smoking (e.g., cancer and heart disease) are linked to inhalation of tar and other chemicals produced by tobacco combustion; the pleasurable, reinforcing, and addictive properties of smoking are produced mostly by the nicotine contained in tobacco. E-cigarettes are designed to simulate the act of tobacco smoking by producing an appealingly flavored aerosol that looks and feels like tobacco smoke and delivers nicotine but with less of the toxic chemicals produced by burning tobacco leaves. Although they do not produce tobacco smoke, e-cigarettes still contain nicotine and other potentially harmful chemicals. Nicotine is a highly addictive drug, and recent research suggests nicotine exposure may also prime the brain to become addicted to other substances. Nicotine may also damage a developing brain, therefore it is important to know the health effects on nicotine and our youth. Testing of some e-cigarette products found the vapor to contain known carcinogens and toxic chemicals (such as formaldehyde and acetaldehyde), as well as potentially toxic metal nanoparticles from the vaporizing mechanism. The health consequences of repeated exposure to these chemicals are not yet clear.

# What Products Should People Who want to Quit Smoking Use?

There are a number of FDA-approved smoking cessation aids, including nicotine gum, nicotine skin patches, nicotine lozenges, nicotine oral inhaled products, and nicotine nasal spray that are available for smokers to use to reduce their dependence on nicotine.

Free help is available to all smokers who want to quit at 1-866-SD-QUITS or by visiting [www.sdquitline.com](http://www.sdquitline.com).

