

# VAPING:

## What you need to know

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# E-Cigarettes

Since their introduction in the United States market, awareness, interest and use of electronic cigarettes has steadily grown.

E-Cigarettes are battery-operated devices that produce an aerosol (vapor) instead of smoke.

E-Cigarettes are a rapidly changing technology. As the products and regulatory environment develop, so may the facts around their usage, health effects and public health impact.

# What is JUUL? How does it work?

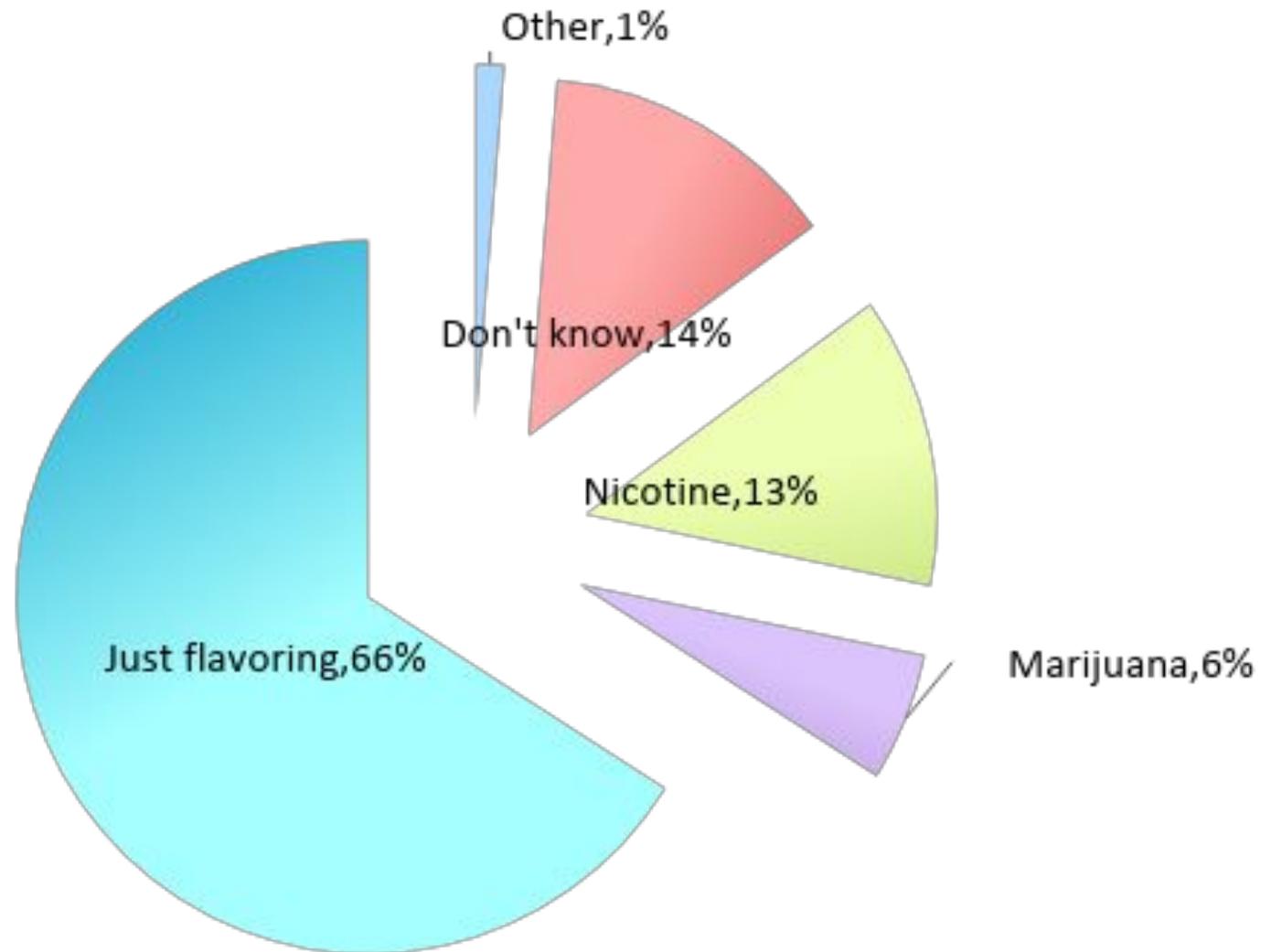
- JUUL has become so popular among young people that it has already amassed **nearly half of the e-cigarette market share.**
- These devices heat up a cartridge containing oils to create vapor, which quickly dissolves into the air.
- Actual device is small enough to fit in a closed fist and has a sleek, tech-inspired design that resembles a USB flash drive.
- Manufacturers say that JUUL is for adults, however, it comes in flavors which are **proven to appeal to young people and facilitate initiation of tobacco product use.**

# Does JUUL have nicotine?

- A single JUUL “pod” is roughly equal to the amount of nicotine in a pack of cigarettes, or 200 cigarette puffs.
- Nicotine is an addictive chemical, and evidence suggests that **nicotine use during adolescence and young adulthood has long-term impacts on brain development.**
- Other risks associated are: damage to heart and lungs, cancerous tumor development, **Popcorn lungs.**
- Young people do not realize that they are inhaling nicotine when they vape or use e-cigarettes. The majority of youth e-cigarette users think that they vape only flavoring, not nicotine.

<https://www.floridatoday.com/videos/news/2018/02/02/video-what-juul/110051706/>

# What do teens say is in their E-cigarette?



# What's actually in an E-cigarette?

- **Propylene Glycol**- commonly used in theatrical fog.
- **Lead**- used in car batteries, highly toxic and banned from paint products.
- **Acetaldehyde**- carcinogen found in cigarette smoke.
- **Formaldehyde**- embalmers use it to preserve dead bodies.
- **Toluene**- common ingredient in paint thinner.
- **Cadmium**- commonly used in batteries, ie. AA, AAA batteries
- **Acetone**- commonly used in nail polish remover
- **Acrolein**- used as a herbicide to control weeds and algae.
- **Nickel**- commonly found in stainless steel, magnets, and batteries.
- **Glycerin**- odorless and colorless, has sweet taste, unknown harm to lungs.
- **Liquid nicotine**- most dangerous part of an E-cigarette.

# VAPING. Don't Get Taken In.

Ads claim e-cigarettes emit only harmless water vapor. NOT true!

## PROPYLENE GLYCOL

Commonly used in theatrical fog. It is considered safe when ingested, but little is known about long-term health effects when inhaled.

## LEAD

Used in car batteries. It is highly toxic and has been banned from paint products. Lead poisoning stunts growth, causes nausea and vomiting and damages the brain.

## ACETALDEHYDE

Carcinogen found in cigarette smoke. It irritates the skin, eyes, mucous membranes, throat, and respiratory tract.

## FORMALDEHYDE

Embalmer use it to preserve dead bodies. It causes cancer and can damage your lungs, skin and digestive system.

## TOLUENE

Commonly used ingredient in paint thinner. It is highly toxic. Exposure to even low levels can cause headache, nausea and wheezing.

## CADMIMI

Commonly used in batteries. It causes damage to the liver, kidneys and brain and stays in the body for years.

## ACETONE

Commonly used in nail polish remover. It can irritate the eyes and may depress the central nervous system.

## ACROLEIN

Used as an herbicide to control weeds and algae. It is a toxic irritant for skin, eyes and nasal passages.

## NICKEL

Commonly used in stainless steel, magnets and batteries. It causes cancer and can damage your lungs and immune system.

## LIQUID NICOTINE

The most dangerous part of an e-cigarette might be the liquid nicotine.

It is highly addictive and toxic. Even small amounts of liquid nicotine absorbed through the skin or swallowed can cause vomiting and seizures, and could be fatal for a child.

The stuff contains even childproof. AND "e-juice" comes in candy flavors and bright colors that look like going to live.

Though e-cigarette aerosol has lower levels of toxins than cigarette smoke, it still contains nicotine, ultrafine particles of toxic chemicals and some known carcinogens. When inhaled a heated propylene glycol or glycerine-based solution. Nobody knows how these affect your health long-term.

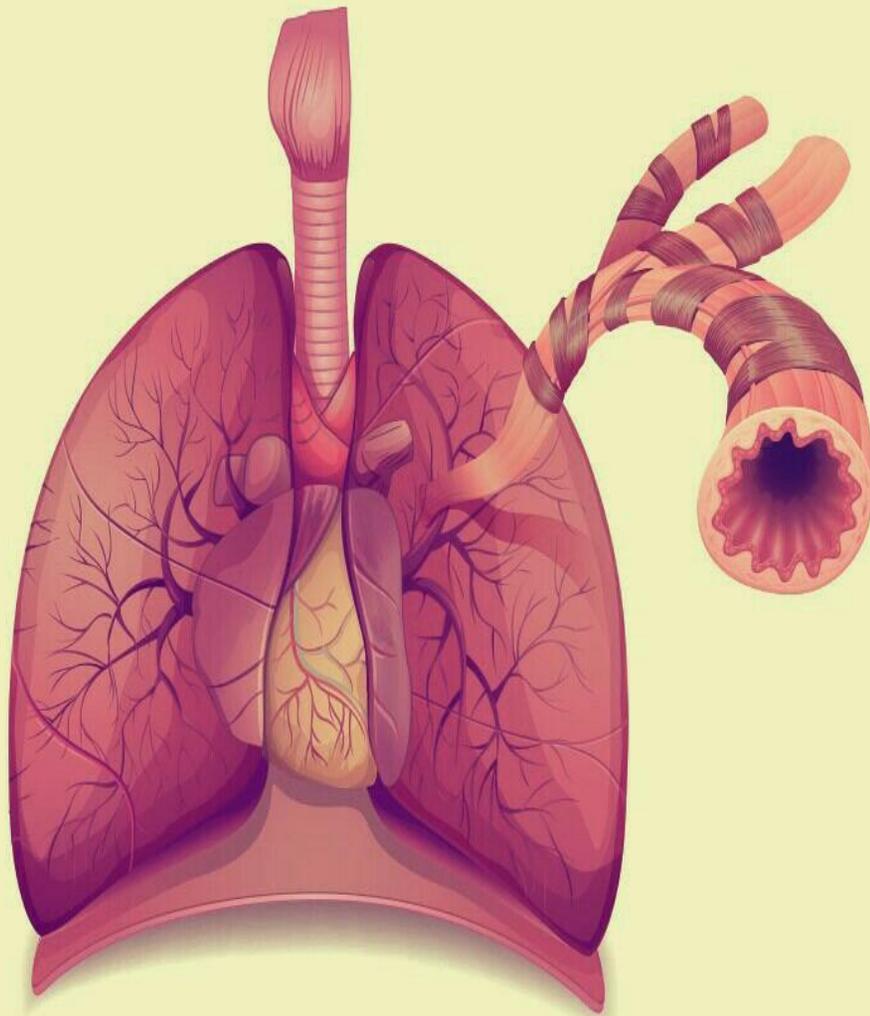
# Is JUUL safer than smoking cigarettes?

- E-cigarette are less toxic but there's a catch.
- Using e-cigarettes has been shown to increase the likelihood of smoking cigarettes among young people.
- A new consensus report by the National Academies of Sciences, Engineering and Medicine, Public Health Consequence of E-Cigarettes, states that there is substantial evidence **that e-cigarette use increases risk of ever using combustible tobacco cigarettes among youth and young adults.**
- A December 2017 study by the University of Pittsburgh Schools of the Health Sciences, published in the American Journal of Medicine, found that **young adults who use e-cigarettes are more than four times as likely to begin smoking tobacco cigarettes within 18 months as their peers who do not vape.**

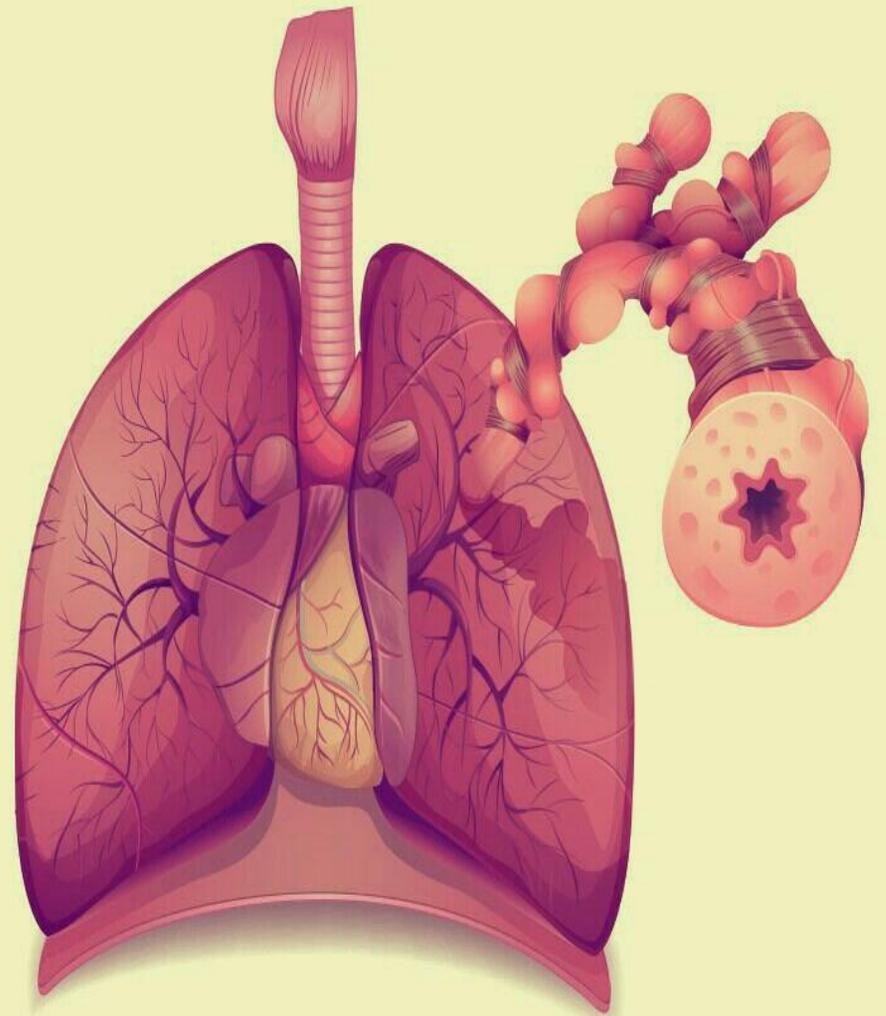
# Popcorn Lungs

- Workers in a microwave popcorn factory were sickened by breathing in **diacetyl**—the buttery-flavored chemical in foods like popcorn, caramel and dairy products.
- **Diacetyl** was linked to deaths and hundreds of cases of bronchiolitis obliterans, a serious and irreversible lung disease.
- Major popcorn manufacturers removed **diacetyl** from their products, but some people are still being exposed to it through e-cigarette vapor.
- When inhaled, **diacetyl** causes a scarring of the tiny air sacs in the lungs resulting in the thickening and narrowing of the airways.
- This chemical is found in many e-cigarette flavors. It is added to "e-juice" liquid by some e-cigarette companies to complement flavorings such as vanilla, maple, coconut and more.
- So while diacetyl was swiftly removed from popcorn products since it could cause this devastating disease among factory workers, e-cigarette users are now directly inhaling this harmful chemical into their lungs.
- Researchers at Harvard found that 39 of 51 e-cigarette brands contained **diacetyl**. The study also found two similarly harmful chemicals—**2,3 pentanedione and acetoin**—present in 23 and 46 of the 51 flavors it tested. And roughly 92 percent of the e-cigarettes had one of the three chemicals present.

# Popcorn lungs



**NORMAL**



**POPCORN LUNG**