

# Vaping: ENDS and BHO

## Today's trendy tobacco and marijuana

Stephanie Siete  
Public Information Officer



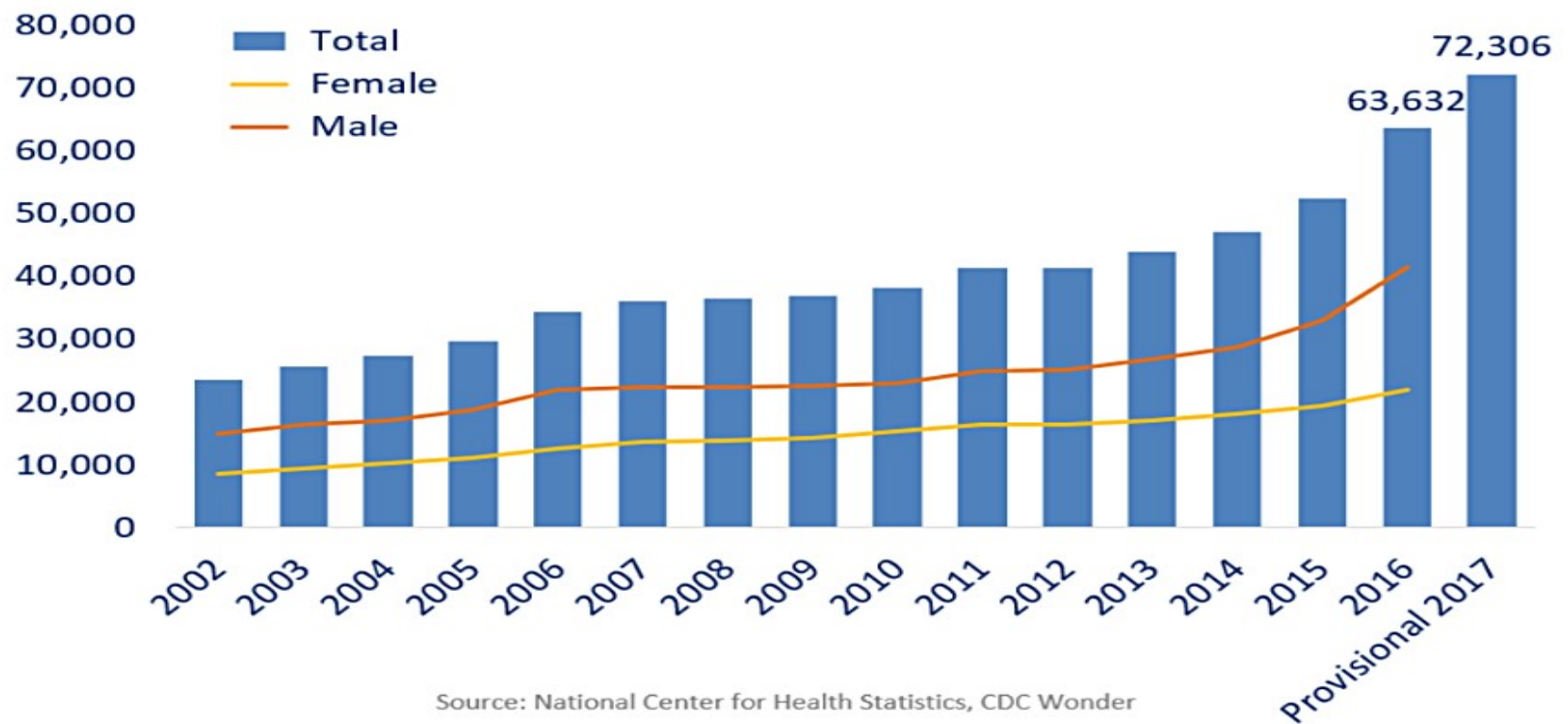


National Institute  
on Drug Abuse



# National Overdose Deaths

## Number of Deaths Involving All Drugs



# Vaping 101



- Hit
- Rip
- Juul
- Phix
- Cloud
- #DI4J
- ENDS
- Dripping
- Mods
- Suorin
- Wax
- Dabs
- Goo
- #710
- Budder
- Concentrates
- Oil
- Shatter
- Juice
- Honey

# Concerns/Thoughts



- Many teens do not believe e-cigs contain nicotine
- Many believe it is just flavoring
- Early e-cigarette use and nicotine addiction can harm brain development and increase the risk of young people smoking cigarettes
- Youth e-cig use increased 10 fold from 2011-2015 (CDC)
- Teenagers should be inhaling air, not products with toxins in them



# Electronic Nicotine Delivery Systems (ENDS)



- Vaporizers, vape pens, hookah pens, electronic cigarettes, e-pipes, mods, juuls, etc.



# E-cigarettes

- According to the FDA, electronic cigarettes are **battery-operated devices the turn nicotine or other chemicals into a vapor** that is inhaled by the user
- Use on the rise among teens
- Easy to conceal other drug use
- Liquid nicotine = potential hazard
- “Vaping” or using “Dabs”
- Vaping Pens...

## The electronic cigarette

It may look like a cigarette and deliver a dose of nicotine, but that's where the similarity ends.

Red **LED** glows when user draws gas from the device.

Rechargeable **battery**

A **sensor** turns on the device when it detects a drop in pressure as the user pulls air from the end . . .

. . . triggering the **atomizer**, which converts stored liquid into a warm fog.

The replaceable **mouthpiece/reservoir** contains a liquid consisting of propylene glycol, glycerine, nicotine and flavorings.

An FDA study found that e-cigarettes release carcinogens and toxic chemicals. However, they might be safer than regular cigarettes because they don't release tar, carbon monoxide, hydrogen cyanide and other poisons found in cigarette smoke.

Sources: Tobacco Control, FDA

PATTERSON CLARK/THE WASHINGTON POST

# What is in e-cigarette aerosol?



- The e-cig aerosol that users breathe from the device and exhale contains harmful substances, including:
  - **Nicotine**
  - Ultrafine particles that can be inhaled deep into the lungs
  - **Flavoring such as diacetyl, a chemical linked to a serious lung disease**
  - Volatile organic compounds (VOCs)
  - **Cancer-causing chemicals**
  - Heavy metals such as nickel, tin, and lead

# E-cig use and teens



- Use among middle and high school students tripled from 2013-2014
- High School
  - 4.5% to 13.4%
  - 660,000 – 2 million
- Middle School
  - 1.1% to 3.9%
  - 120,000 – 450,000



# Teen Vape Use



- 36% of 12<sup>th</sup> graders had tried some form of vaping in 2017
  - Compared to 4% of 12<sup>th</sup> graders smoked cigarettes in 2017
- 10% of 8<sup>th</sup> graders
- 14% of 10<sup>th</sup> graders



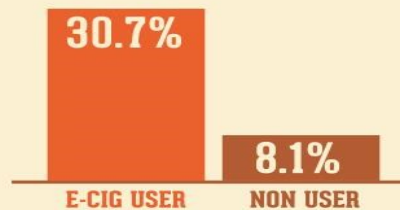
# ENDS and Teen Use



- **More than 3 million** middle and high school students were current users of e-cigs in 2015
- In 2014, **81% of current youth e-cig users** cited the availability of appealing flavors as primary reason for use
- How do they obtain:
  - Visa gift cards ➡ Amazon Account = Purchase
  - eBay gift cards

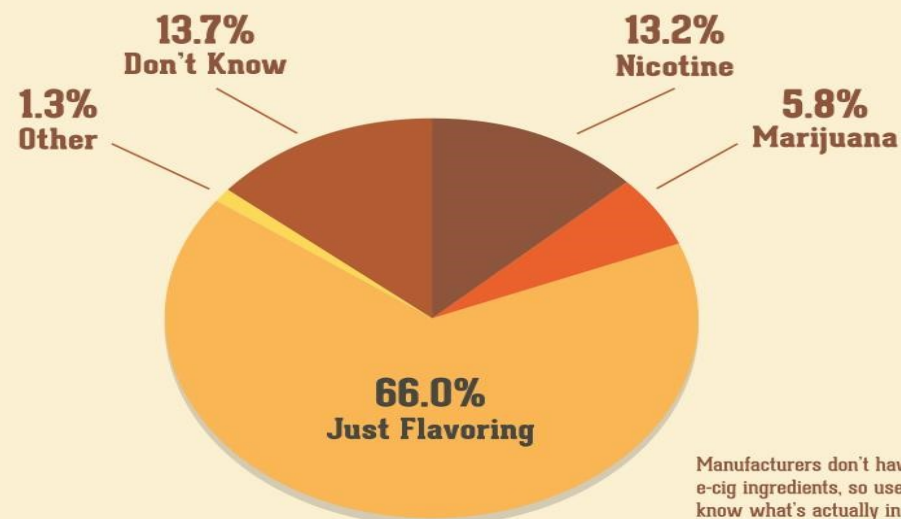
## TEEN E-CIG USERS ARE MORE LIKELY TO START SMOKING.\*<sup>2</sup>

### Start Smoking Within 6 Months



\*Includes combustible tobacco products [cigarettes, cigars, and hookahs]

## WHAT DO TEENS SAY IS IN THEIR E-CIG?<sup>3</sup>



Manufacturers don't have to report e-cig ingredients, so users don't know what's actually in them.



# What does it look like?

Vaping pens



Cartridge Style E-Cigarette



Re-Fillable Tank Style E-Cigarette



Regular Cigarettes, Electronic Cigarettes, Vaporizer Pens







# **Feds crack down on e-liquid packaging that looks like candy, juice boxes**

**May 1, 2018**

Federal regulators warned 13 companies that the way they market liquids used in cigarettes could entice dangerous ingestion by small children. (U.S. Food and Drug Administration)

# Warning



- Endangering children by **marketing e-cig liquids to resemble kid-friendly products**... juice boxes, candy and whipped cream
- Packaging of the products — some cartoonlike images — could **mislead children** into thinking toxic liquids are ok to eat and drink



E-liquid



Food product



E-liquid



Food product



E-liquid



Food product

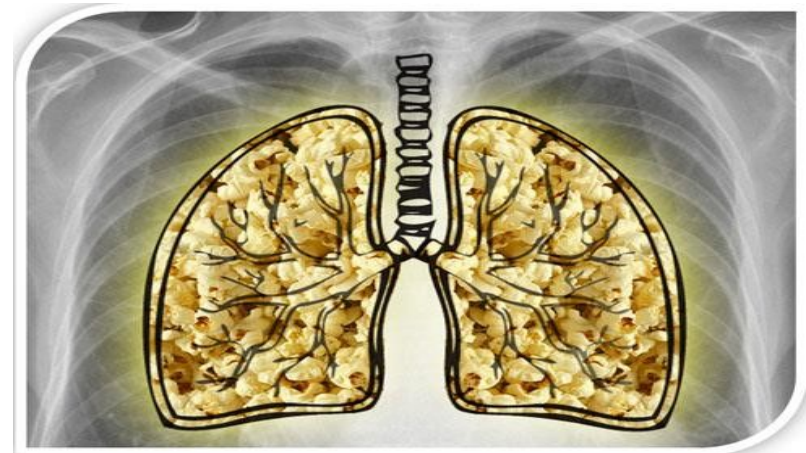


- “This vape is so authentic to your favorite soda pop that you'll think you're sipping it from a straw rather than your electronic cigarette.”

- E-cig liquids - Irreversible lung damage – Popcorn Lung



Stanford Research into the Impact of Tobacco Advertising.



M I L W A U K E E  
**JOURNAL SENTINEL**

**“JUULing is the New Teen Vaping Fad  
Taking Over School Bathrooms”**

*The New York Times*

**“‘I Can’t Stop’: Schools Struggle  
With Vaping Explosion”**

THE WALL STREET JOURNAL.

**“Schools and Parents Fight a  
Juul E-Cigarette Epidemic”**

**CNN**

**“Vaping Now An Epidemic Among  
US High Schoolers”**

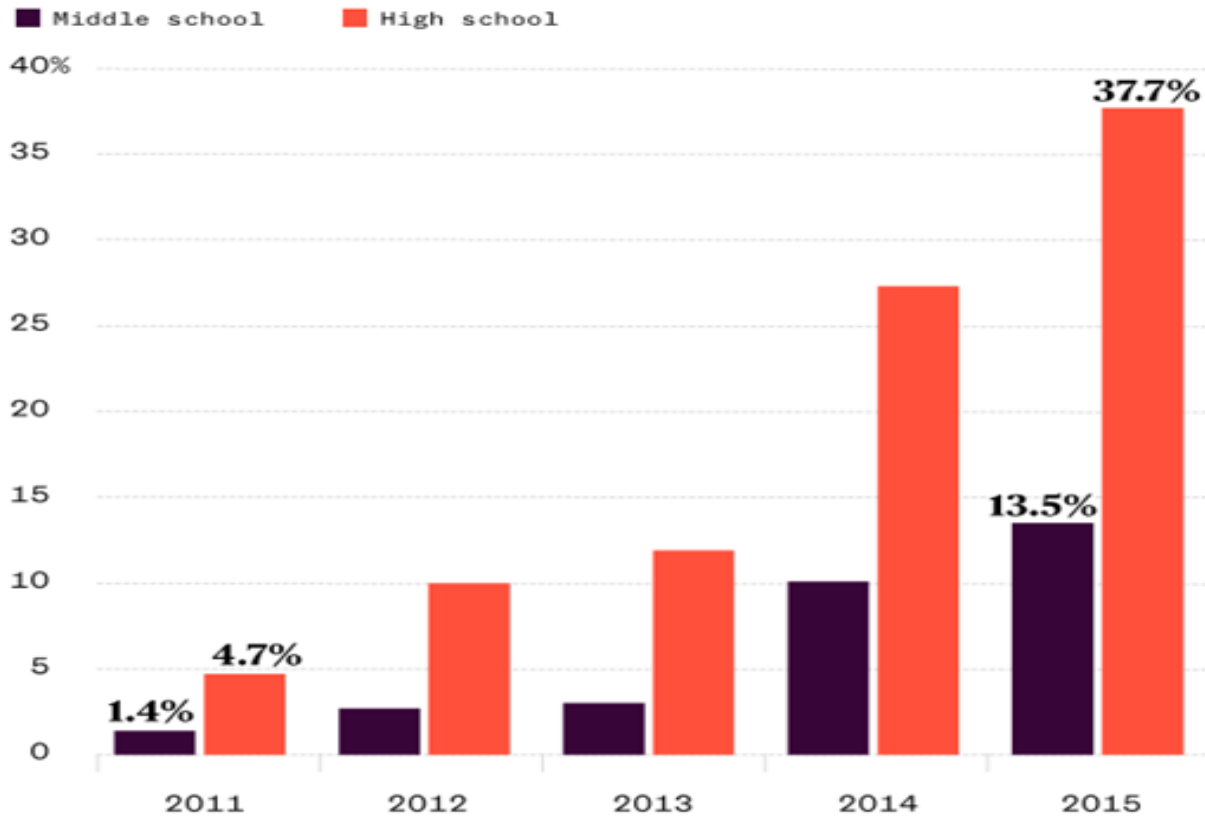
TobaccoFreeKids.org





## Alarming trend

Doctors, parents worried about 'juuling,' a teen e-cigarette fad. Percentage of middle-school and high-school students who have ever used e-cigarettes

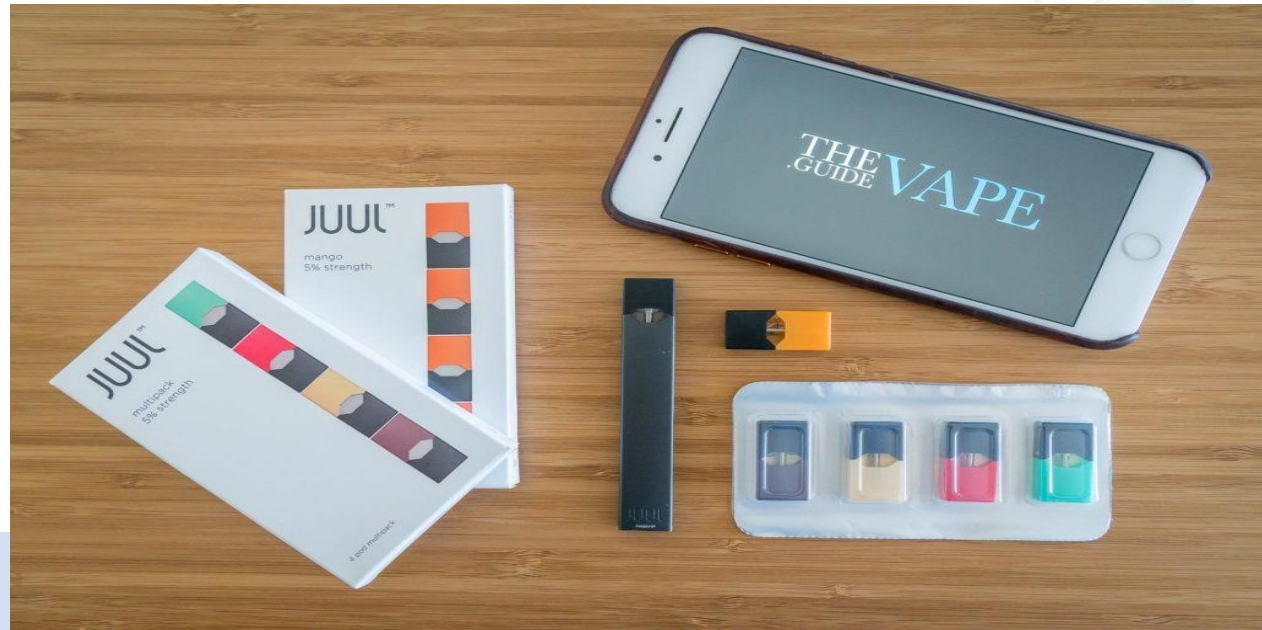


\*Data includes those who reported ever trying e-cigarettes

Source: U.S. Department of Health and Human Services



# Juul – The iPhone of e-cigs





# Dangerous Product for Youth

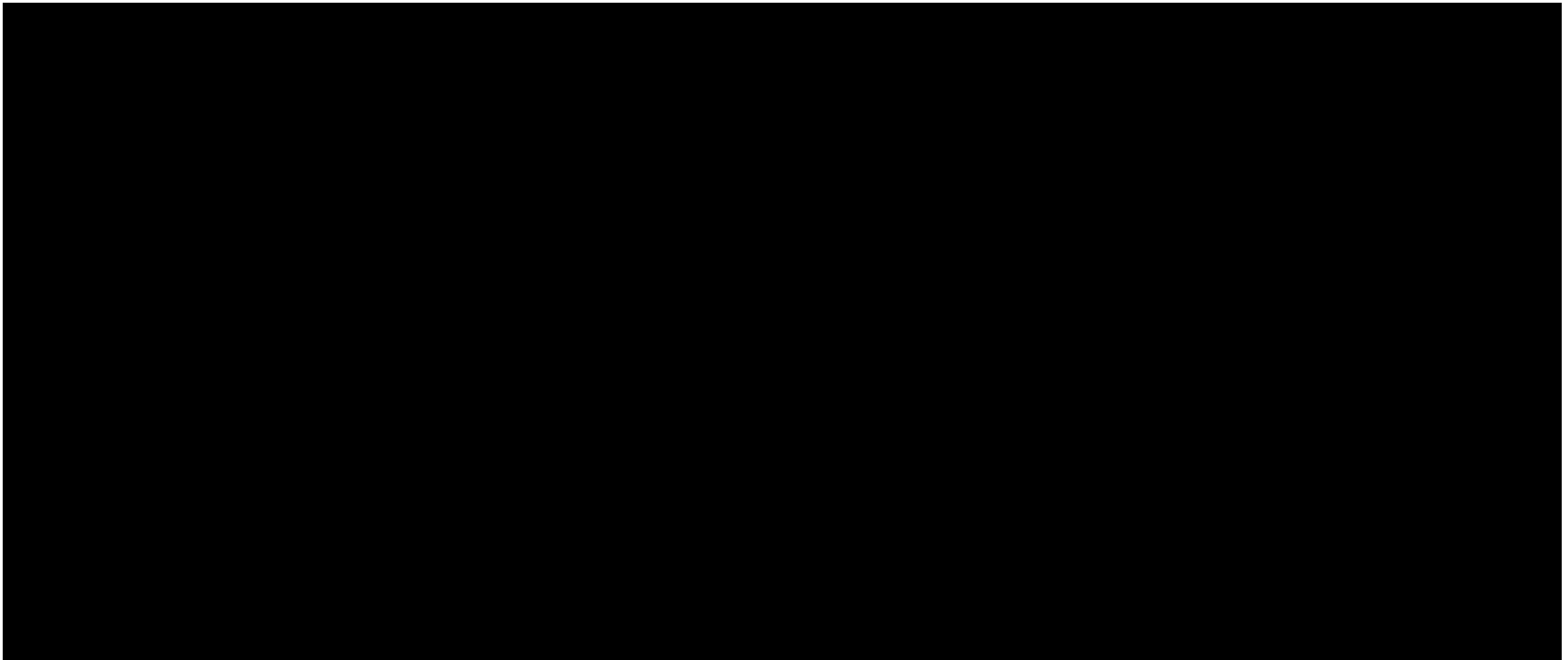
- Over 7,000 fun flavors
  - Cotton candy, gummi bear, strawberry
- Devices look like pens, USB drives, phone chargers, etc.
- One juul pod of nicotine = entire pack of cigarettes
- #doit4juul
- #DI4J
- <https://www.instagram.com/p/BfwV6IEh1pC/>
- <https://www.instagram.com/p/BfwV6IEh1pC/>

**63%**

**OF JUUL USERS  
DON'T KNOW THAT  
THE PRODUCT  
ALWAYS CONTAINS  
NICOTINE.**



# More about Juuling...



# More about Juuling...



- [Today Show and Juuling April, 2018](#)
- **Is your teen 'juuling'? Why parents and doctors are so worried**
- <https://www.cbsnews.com/news/vaping-health-effects-rising-use-among-teens/>

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# JUULpod

**\$15.99** per 4-pack

FREE SHIPPING\*

Each pack contains 4 pods. Each JUULpod contains 0.7mL with 5% nicotine by weight, approximately equivalent to 1 pack of cigarettes or 200 puffs.



virginia  
tobacco

QTY



cool  
mint

QTY



fruit  
medley

QTY



creme  
brulee

QTY



mango

GET NOTIFIED







JUUL  
“Juuling”  
#JUULVAPOR

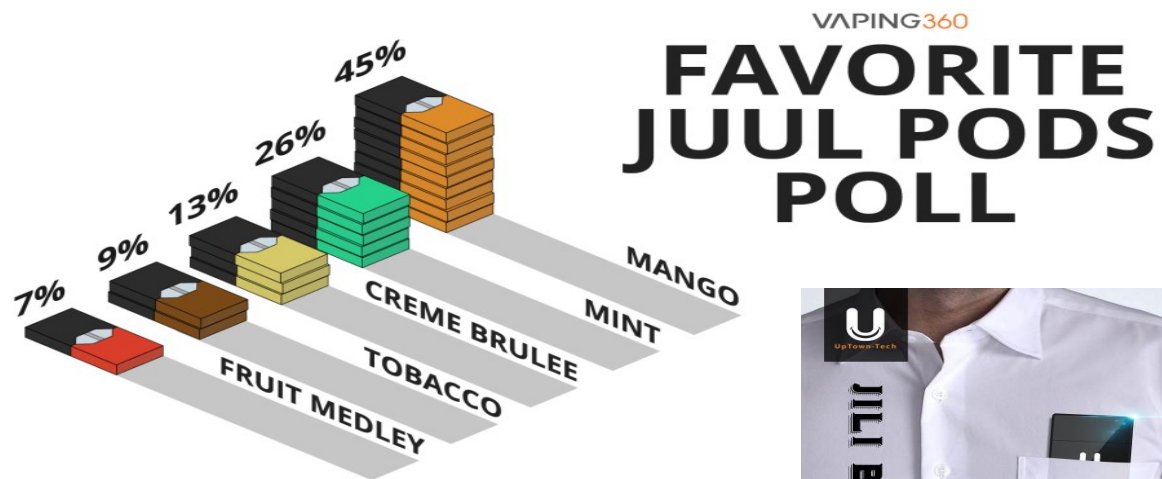


VAPING CHEAP .COM

JUUL



**JUUL Starter Kit \$37.49**



\*NOTE: The poll was done on vaping360.com and the results reflect more than 100,000 votes.  
All images, artwork, text and graphics are the property of Vaping360. All rights reserved.



## Behind the JUUL

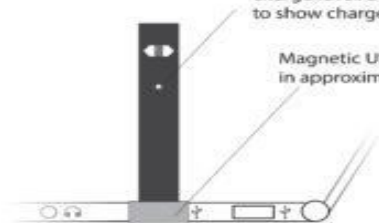
The information below offers a description of the parts of a JUUL.

JUULpod: Contains flavored nicotine liquid, equal to approximately one pack of cigarettes. Functions as mouthpiece.



Circular Indicator: Glows to reflect charge level. Double tap on device to show charge level.

Magnetic USB: Fully charges JUUL in approximately one hour.





## HOW DOES IT WORK?

### START WITH YOUR JUULPOD

Remove colored cap & insert cartridge end into device. Voila - it becomes your mouthpiece as well as the flavorful engine that powers JUUL.

No buttons or switches, just draw to get it going - carefully at first, it may seem strong to first-timers.



### CONSULT THE INDICATOR

The indicator glows during use to reflect pull strength and while charging. When pod is inserted, gently tap device twice to show charge level.

-  green = high
-  yellow = medium
-  red = low

### CHARGE IT

Stand device in magnetic USB charger. Reaches full charge in 1 hour.







# Phix Vape Kit



- The ultra-portable revolution is in full swing, and the pod based Phix system by **Major League Vapers** makes a good case for why it should be your ultra-portable of choice!



# Phix vs. Juul

- Phix
- 6 flavors
- 5% nicotine content
- One pod = 400-450 puffs
- Easy to use
- Discreet



**vs**



- Juul
- 8 flavors
- 5% nicotine content
- One pod = 200 puffs
- Easy to use
- Discreet
- Cheaper



**suorin**AIR  
"SMALLER THAN A CREDIT CARD"  
2ML OPEN-POD SYSTEM  
MICRO-USB CHARGING



**ANY**  
30 ml Bottle



AVAILABLE IN  
**25 mg**  
**50 mg**



**\$30**

# Suorin Air





# Mods

## “Modding”

- They have more features than regular e-cigarettes, customizable options, long battery life, and most importantly, they produce more vapor
- “Modifying” them to accommodate larger batteries and higher resistance atomizers, and better cartridges and tanks



# More Mods



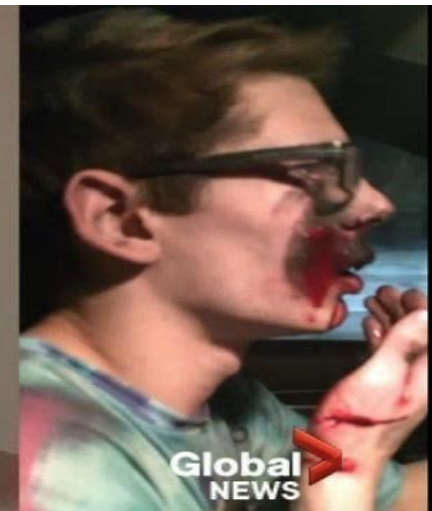
## Kanger K-Pin



# E-cig explosions



16 year old teen suffers  
2<sup>nd</sup> degree burns to face





# Teens and Vape explosions



This is it I got stitches and wires on my bottom jaw





Man loses 7 teeth  
after vaping  
explosion

Man loses part of  
tongue after  
vaping explosion





# E-cig Explosions



- [E-Cig Blows up in Man's Pocket](#)
- [E-cig lodges into ceiling after blowing up in man's hand](#)



# Burned Florida Man Was Killed by Exploding Vape Pen

By [James Tennent](#) On 5/17/18 at 8:18 AM



- A man in Florida **died when his vape pen exploded, firing two pieces of the device into his head before his house set on fire, leaving his body heavily burned**, (medical examiners report has said)
- The death is thought to be the 1st in the U.S. directly related to the use of one of the popular devices
- Individual died from a **“projectile wound of head”** and 80 percent of his body suffered burns in the subsequent fire
- The device was manufactured by Smok-E Mountain, with *The New York Times* reporting that the company’s logo appeared on one of the object found in D’Elia’s cranium

# 5 Tips to help avoid vape battery explosions



## 1. Consider using vapes with safety features

such as firing button locks, vent holes, and protection against overcharging.



## 2. Keep your vape covered.

Don't let it come into contact with coins or loose batteries in your pocket.

## 3. Never charge your vape with a phone or tablet charger.

Always use the charger that came with it.

## 4. Don't charge your vape overnight

or leave it charging unattended.

## 5. Replace the batteries if they get damaged or wet.

If your vape gets damaged and the batteries are not replaceable, contact the manufacturer.

# Poisons



- “E-liquids,” are a mix of nicotine, flavors and other ingredients
  - Ingesting them can cause nicotine poisoning and even death for small children
- Between January 2012 and 2017 there were **more than 8,200 e-cig and liquid nicotine exposures** among children younger than 6

**Teens inhale cancer-causing chemicals in e-cigs**  
**Fruit flavors have the most chemicals, study finds**



- **Thirty-one percent of the students cited the availability of flavors**, such as mint, candy, fruit or chocolate, as a reason for e-cigarette use
- Research shows that young people are **more likely to try flavored e-cigs and believe that they are less harmful** than tobacco-flavored ones

# What is propylene glycol in E cigarettes?



- **Propylene Glycol** is the chemical used to create the visual smoke seen when vaping an electronic cigarette
- The **Propylene Glycol** (PG) is added to the liquid nicotine, water, and flavorings used while making e juice (sweet taste)
- Heated creates the vapor and potential hazards of lung irritants
  - Contributes to “popcorn lung” with diacetyl (an artificial flavor with a buttery taste)



# Electronic Cigarettes and Liquid Nicotine Exposures - AAPCC



Year	Number of Cases
2011	271
2012	460
2013	1,543
2014	4,024
2015	3,774
2016	2,886
2017	2,450
2018 (thru Sept)	2,226

**More than half of these reported exposures have occurred in  
young children under the age of 6**

## Types of tobacco and liquid nicotine-related exposures reported to poison centers:



- *A child swallows a cigarette butt he found on the ground*
- *An adult accidentally rubs liquid nicotine into her eyes after refilling an e-cigarette cartridge*
- *An adolescent experimenting with smokeless tobacco swallows a mouthful of the product*
- *A child tastes liquid nicotine because it has a pleasant smell*

## Warning – Which is Which?



# Dab Pen



- **A vaporizer pen specifically designed to vape cannabis concentrates**
  - A regular dab pen comes with atomizers, coils for heating the material and mouthpiece, which you inhale through to get the vapor
  - **Dab pens** come in all shapes and sizes, and their diversity and availability contribute to their popularity
-

# Wax Pen Starter Kits



# Pens and containers







Wax, Dabs, Goo, Honey,  
Shatter, Budder, BHO

# Butane Honey Oil (BHO)

## Dabs, Wax, Budder, Shatter



- Similar to oils, but **more concentrated**; thus greater high
- Cooked like meth; acts like meth: **psychotic breaks**
- **Passing butane through a tube packed with marijuana**
- Leaves extracted resin behind as a sticky, thick oil-like substance
- Risk of explosion
- **Up to 90% THC**



# Potency



- 1960-1970s – 2-3% THC (leafy green)
- Today the oil or concentrate can be anywhere from **70-90% pure**
- Quicker high







RSO



Co2



Live Resin



Shatter



Bubble Hash



Crumble

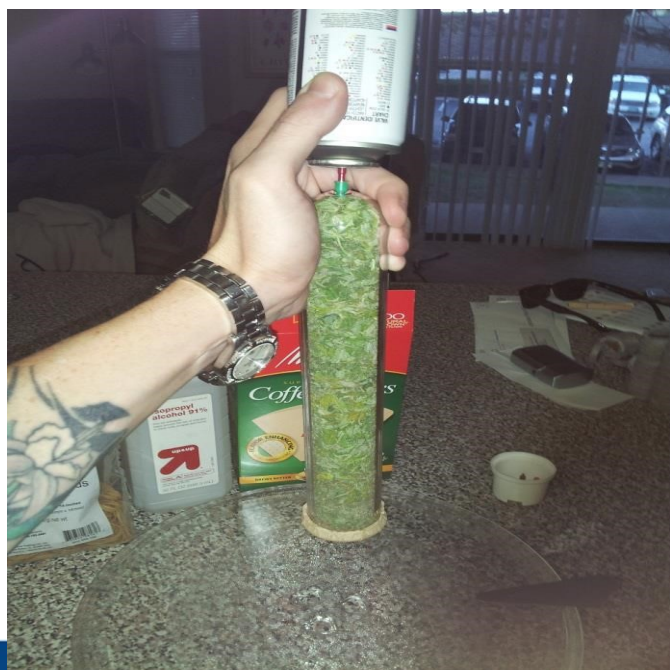


Budder  
/Earwax

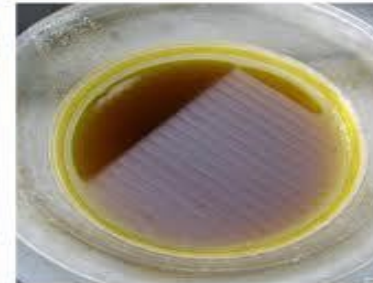


Sugar Wax

# The BHO Process







[www.dailydabs420.com](http://www.dailydabs420.com)



# Wax cooks = “Boom!”



- Wax is to marijuana as freebasing is to cocaine or heroin and what the shake-and-bake method is to meth
- *Very, very* dangerous
- When using butane to make wax, its vapors can fill a room and ignite with the smallest of sparks, just like gas

# BHO Explosions - video



**WARNING**

**The following video contains  
content that may be disturbing to some.  
Viewer discretion is advised**

# BHO Explosions

CBI



Extremely dangerous for you, loved ones,  
neighbors, the community



## THC Extracts Vaping: How it Works



- Vaping wax with a **dab pen** or **e-Nail** is the gold-standard in using extracts because it induces a **clear, clean *high***, and does not produce any smoke
- **Marijuana wax and oil usually contains about 80% THC** compared to **top-shelf dry herb**, with a **mere 20%**



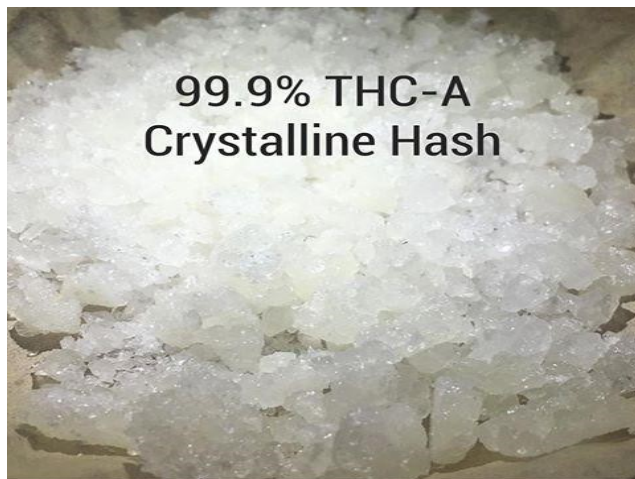
<https://thevape.guide/vaping/extract/>



# Crystalline THC



- **THCa Crystalline** was developed as a means of delivering **large, quantifiable doses of THCa** and is known as the purest isolate anywhere on the market testing at 99-100%



# According to thevape.guide



- Vaporization implies vaporizers produce **little to no marijuana scent and no smoke**, though, as the name suggests, they do produce vapor that quickly dissipates
- Vaping THC concentrates produces a **stronger and purer high** than smoking does
  - “Vaping THC extract is the best method for users who value convenience, their health, and want the **purest high** available”



# THC'S MANY FORMS



## Smoking Marijuana

Dried flower buds from the cannabis plant



## Smoking Cannabis or Hashish Oils

Made from resin extracted from the flower cluster and top leaves of the plant



## Using a Vaporizer

Cannabis that's heated and vaporized, not burned



## Marinol

FDA-approved medicine that contains synthetic THC



## Edibles

Food, drinks, oils



# Marijuana Edibles





# Marijuana Edibles











# Third Death in Colorado Linked to Marijuana Edibles



<http://www.foodsafetynews.com/2015/03/third-death-in-colorado-linked-to-edible-marijuana/#.VUqoaLctFdg>

1. **Colorado dad pleads not guilty to shooting his wife dead in front of their three sons after 'hallucinating on pot candy'** March, 2015
  - Kristine Kirk, 44, was shot dead at her Denver home in April 2014. She was on the phone to 911 reporting her husband's 'scary' behavior. He was 'talking about the end of the world', she said to the dispatcher
2. **Wyoming college student Levy Thamba Pongi, 19, who took a leap from a Denver hotel balcony after eating pot-infused cookies. "Marijuana intoxication" was listed by the coroner as a significant factor in his death.**
3. **Luke Goodman, 23, killed himself Saturday, March 27, 2015 in a condo at Colorado's Keystone Ski Area. Goodman's family and friends suspect that edible marijuana was a factor in the self-inflicted gunshot death. His mother, Kim Goodman, blames her son's death on "a complete reaction to the drugs."**

Kristine Kirk and her children in an undated photo.  
Kristine's parents and sister are now legal guardians of the children



Kirk's children have filed the nation's first wrongful-death lawsuit against a recreational marijuana company, claiming their father ate a pot-laced Karma Kandy Orange Ginger, a Tootsie-Roll-like chew, that triggered the April 14, 2014, shooting.

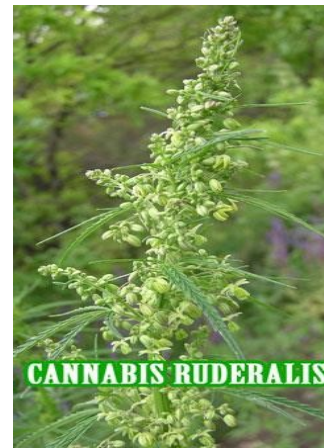
# Then

- 1960-1970s – 2-3% THC (leafy green)
- **420** (chemicals, time to smoke, date to party)
- Smoked weed

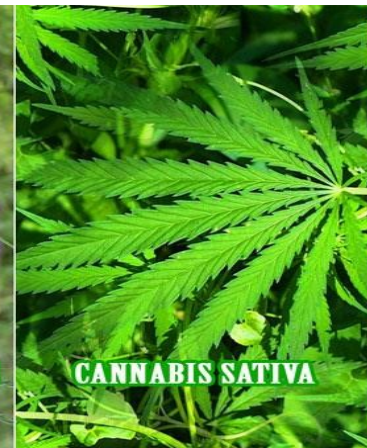


# Now

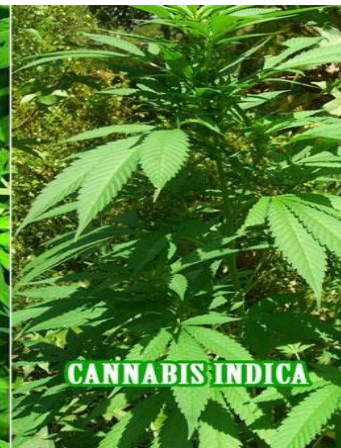
- 20-30% THC (leafy green)
- **710** (oil, concentrated w more chemicals)
- Vaped, smoked, edible, dabbing
- Might not smell it
- Looks like butter, honey, oil
- Synthetic: cooked with butane
  - **90% THC**
  - **Psychotic breaks**
  - **Violent behaviors**



CANNABIS RUDEALIS



CANNABIS SATIVA



CANNABIS INDICA

**BHO is 710 is Oil**



**710**

**OIL**

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# THC



- **Tetrahydrocannabinol**
- Psychoactive ingredient in marijuana (**high**)
- Can cause paranoia or anxiety
- Mind altering
- Induce sleepiness



# CBD



- **Cannabidiol**
- AKA: Medical Marijuana
- Non-psychoactive (**no high** – does not act on same receptors as THC)
- May reduce anxiety
- May have antipsychotic properties - reducing the psychosis-like effects of THC
- Promote wakefulness

# Average **THC** and **CBD** Levels in the US: 1960 - 2011

Mehmedic et al., Potency Trends of D-9 THC and Other Cannabinoids in Confiscated Cannabis Preparations from 1993 to 2008, J Forensic Sci, September 2010, Vol. 55, No. 5. See <http://home.olemiss.edu/~suman/potancy%20paper%202010.pdf>.

MARIJUANA POTENCY



# Resources



- <https://www.tobaccofreekids.org/>
- [www.aapcc.org](http://www.aapcc.org) or 1.800.222.1222
- [https://e-cigarettes.surgeongeneral.gov/documents/2016\\_SGR\\_Full\\_Report\\_508.pdf](https://e-cigarettes.surgeongeneral.gov/documents/2016_SGR_Full_Report_508.pdf)
- [https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/index.htm](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/index.htm)
- [https://www.washingtonpost.com/local/public-safety/juuling-if-you-dont-know-what-it-is-ask-your-kids/2018/05/09/37e2f026-4d65-11e8-84a0-458a1aa9ac0a\\_story.html?utm\\_term=.705cee4b8f42](https://www.washingtonpost.com/local/public-safety/juuling-if-you-dont-know-what-it-is-ask-your-kids/2018/05/09/37e2f026-4d65-11e8-84a0-458a1aa9ac0a_story.html?utm_term=.705cee4b8f42)

# Don't waste time...



- Learn something new?
- Tell others
- Be proactive
- Prioritize healthy decisions/conversations
- Be honest and direct
- Keep it real



# Thank You!



Stephanie Siete  
Public Information Officer

**Access to Care - 24/7**  
**877.931.9142**

CommunityBridgesAZ.org

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