

CLASSIFICATIONS OF E-CIGARETTES

First Generation Devices

- E-cigarettes were often similar in size and shape to conventional cigarettes, with a design that also simulated a traditional cigarette in terms of the colors used. These devices were often called “cigalikes”. There were also other products designed to simulate a cigar or a pipe. Other “cigalikes” were slightly longer or narrower than a cigarette; they came in various colors ranging from white and tan to black and bright colors.

These models used a cartridge design for the part of the device that holds the e-liquid, which is either prefilled with the liquid or empty and ready to be filled (USDHHS, 2016, p.11).



Source: 123RF, [Piotr Marcinski]



Source: 123RF, [phadventure]

- Only three chemicals were listed in these devices (propylene glycol, nicotine, water).
- These devices contained only 5-20 mg/ml of nicotine.
- Designed to mimic the smoking experience as close as possible, these products served as stand-ins for cigarettes among users who wished to quit smoking or sought out an alternative product to a cigarette (NASEM, 2018, p.57).
- These devices are why we refer to vaping products as e-cigarettes. The newer devices do not look anything like a cigarette and are now referred to as vapors.

CLASSIFICATIONS OF E-CIGARETTES

Second Generation Devices



Source:123RF, [123plot]

- Second generation e-cigarettes are characterized by a clearomizer, a transparent cartridge that holds e-liquid and an atomizer, and a thin battery. Second generation devices include products that are shaped like pens, are comparatively larger and cylindrical, and are often referred to as “tank systems”, in reference to the transparent reservoir that holds larger amounts of e-liquid than previous cartridge-containing models (NASEM, 2018, p.57).
- This is the first time flavors and other chemicals are added to e-cigarette liquids.
- These devices are also popular with marijuana (THC) chemicals, because of the universal 510 thread battery. Consumers can purchase a prefilled tank with THC to replace one that is empty. Often called “Dank Vapes”.



Source:123RF, [Alexander Makarov]



Source:123RF, [shannoncapjah]

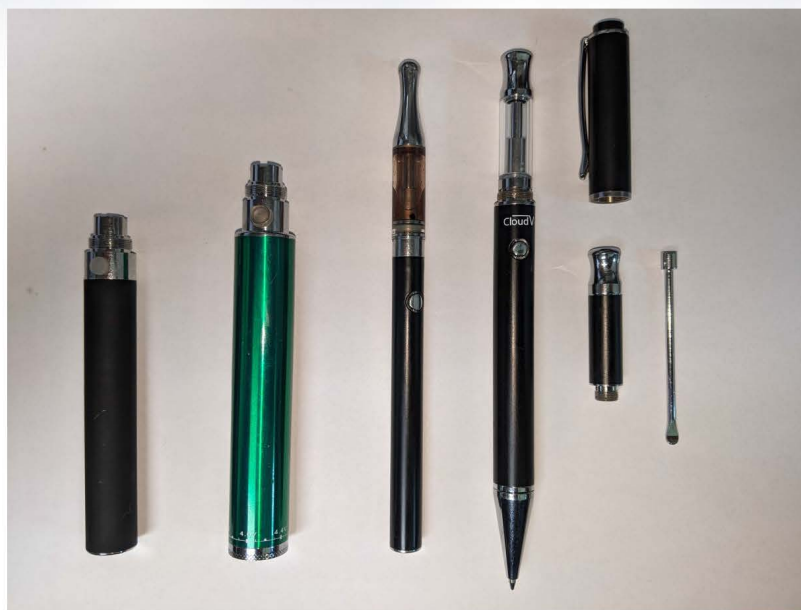
CLASSIFICATIONS OF E-CIGARETTES

Second Generation Devices Continued



Source: Cody Orchard

Item above is a “Dank Vape”. Dank Vapes typically have approximately 98% THC in them. They can be bought in states that have legalized the sale of marijuana or sold illegally in the state of Idaho. This item was confiscated at a local high school in South Central Public Health District (SCPHD).



Source: Cody Orchard

These are examples of second generation vaping devices called “Vape Pens”. The two items on the left are 510 thread batteries. They are made to be universal. Any vaping tank or coil can attach to the top of them. Most marijuana shops sell the batteries and tops separately. That way you can just replace the liquid instead of the whole device. The middle device is the classic vape pen, but is not refillable. The item on the right is a vape pen that actually writes like a pen. It has a 510 thread battery that allows the user to switch out the liquid tank (attached to pen) and replace it with a tank that has a heating coil used for dabbing marijuana. You can see the *dabbing tool to the far right, which is used to place wax marijuana inside the device or can be used to clean it out. The device comes with a cover that you screw on over the e-liquid tank to make it look like a regular writing pen. These devices were confiscated at a local high school in SCPHD.

*For more information on dabbing go to page 37

CLASSIFICATIONS OF E-CIGARETTES

Third Generation Devices



Source: 123RF, [Nicat Nasibli]

- Third generation devices represent a diverse set of products and constitute the greatest departure from the traditional cigarette shape. Many are square or rectangular and feature customizable and rebuildable atomizers and batteries.
- Users can modify the devices or build their own devices, which are often referred to as “MODS”, which is short for modifying.
- The differences in design and engineering of these products are key factors in the size, distribution, amount of aerosol particles, and the variability in levels of chemicals present in the e-liquid/aerosols delivered to the user.

(USDHHS, 2016, p.11)

These devices allow the user to change the wattage and create hotter coils. This makes the devices capable of creating large amounts of vape clouds, also known as
CLOUD CHASING.

CLASSIFICATIONS OF E-CIGARETTES

Third Generation Devices Continued



Source: Cody Orchard

All of the devices above were confiscated from local high schools in South Central Public Health District.

Rebuildable Drip Atomizers (RDA) are MOD devices used to build bigger clouds and get stronger flavors. Vapers use a toolkit like the one below to build coils that they attach to the RDA with negative and positive connections. They then put cotton inside the coils and soak them with e-liquid until the liquid turns to a vapor (see the picture below). This is extremely dangerous, because if the coils cannot withstand the battery power in the device it can cause them to explode or overheat. This method is also called Dripping.



Source: Cody Orchard

CLASSIFICATIONS OF E-CIGARETTES

Fourth Generation Devices

- Fourth generation devices are small and easy to hide. They are often called “PODS”.
- When “pods” first arrived on the market, the majority of them were closed system vape kits that were pre-filled with disposable cartridges that didn't allow a person to introduce different e-juice.
- Now there are open system pods with refillable cartridges, and devices that have refillable tanks built into their frames.
- These devices are often made to look like everyday common products found around the house, at the office, or in school. For example: hard drives, flash drives, watches, lipstick, drawstrings, coffee mugs, pens, and MP3 players.
- These devices are so popular that other companies have started copying the design created by JUUL.



Source: 123RF, [Steven Heap]

CLASSIFICATIONS OF E-CIGARETTES

Fourth Generation Devices Continued



Source: Naftulin (2019)



Source: Cody Orchard



Source: Cody Orchard

Devices in bottom two photos were confiscated at local South Central Public Health District schools.

CLASSIFICATIONS OF E-CIGARETTES

Fifth Generation Devices

Fifth Generation devices started becoming popular in early 2020.

- Although similar in shape, size, and nicotine content to the fourth generation, disposable vaping devices do not have a removable pod and cannot be classified with fourth generation devices.
- Small, easy to hide, disposable vaping devices.
- Unlike disposable devices from the first generation that contained only 5-20 mg of nicotine, these devices can reach approximately of 30mg—60 mg of nicotine, making them more addictive, and harder to quit.
- They come in multiple flavors
- Due to being disposable, these vaping devices are able to get around federal regulations that required a flavor ban on all pre-filled fourth generation devices.
- Cost ranges from \$3.00—\$5.00 each



**WARNING: THIS PRODUCT CONTAINS NICOTINE.
NICOTINE IS AN ADDICTIVE CHEMICAL.**

Source: Puff Bar Disposable Device, (2020)



Source: Demand Vape (2020)

Historically, vaping devices adapt every three to four years. This allows them to create new ways of vaping, increase chemical ingredients, and get around government regulations. The following are dates listed are when they first entered the market and were replaced by a new generation: First Generation (2006-2009), Second Generation (2009-2012), Third Generation (2011-2017), Fourth Generation (2017-2020), Fifth Generation (2019–Present).

CLASSIFICATIONS OF E-CIGARETTES

Fifth Generation Devices Continued



Device Name	Zaero	Posh	Posh Plus	Puff Bar	Sea Stix	Eon Stik	Mr. Vapor	Stig	Mojo	Nano	Myle Mini	Twst	Blow Stix	Boss Vapes	Plus Pods	Ziip Z-Pod
E-Juice Capacity	1.8ml	1.8ml	2ml	1.3ml	1.2ml	1.3ml	1.3ml	1.2ml	1.2ml	1.5ml	1.2ml	1.0ml	1.2ml	1.2ml	1.2ml	1.4ml
Nicotine Strength	50 MG (5.0%)	60mg (6.0%)	60mg (6.0%)	20mg (2.0%), 50mg (5.0%)	50mg (5.0%)	68mg (6.8%)	50mg (5.0%)	50mg (5.0%)	50mg (5.0%)	49mg (4.9%)	50mg (5.0%)	50mg (5.0%)	60mg (6.0%)	50mg (5.0%)	60mg (6.0%)	60mg (6.0%)

Source: Vapor4Life (2020)



Source: Cody Orchard

Devices in bottom photo were confiscated at local South Central Public Health District schools.

CLASSIFICATIONS OF E-CIGARETTES

IQOS (I Quit Ordinary Smoking) Devices

- IQOS uses different technology than e-cigarettes.
 - Heat-not-burn [devices] are different from e-cigarettes because they use actual tobacco, not the flavored e-liquid typically found in e-cigarettes. The concept behind heat-not-burn [devices] is that it allows users to experience what looks and feels like smoking a regular cigarette without inhaling combusted tobacco.
- The devices have not been FDA approved.
 - The FDA stated, while its decision permits the tobacco products to be sold in the United States, it does not mean these products are safe or FDA approved.
- Heated tobacco products are not proven to be safer than cigarettes.
 - Research shows that although IQOS may have lower levels of some toxicants than cigarettes, they can still expose users to higher levels of other toxicants. Likewise, IQOS could result in users having lower risks of some diseases, but higher risks of others.

(Truth Initiative, 2019)



Source: 123RF, [Daloiso Lorenzo]



Source: 123RF, [vfhnb12]

The IQOS shops show similarity to Apple Stores. Slick Advertising is one of the many ways IQOS is advertising their product to appeal to a younger generation.

CLASSIFICATIONS OF E-CIGARETTES

IQOS (I Quit Ordinary Smoking) Devices



Source:123RF, [Oleksii Hulak]



Source:123RF, [maabaff]



Source:123RF, [Alexander Garlov]



Source:123RF, [Alexander Garlov]



Source:123RF, [Alexander Garlov]



Source:123RF, [Abdul Razak Latif]



Source: Cody Orchard