

IS E-JUICE WHAT WE'VE ALWAYS THOUGHT?

Why exactly is it in e-juice and is it as undangerous as we walk around imagining ourselves?

We have spoken to Even K. Teigland at NILU the Norwegian Institute for Air Research, which in 2018 created a master's thesis in Chemistry and Biotechnology where he wrote about the characterization of nonpolar (not water-soluble) components in e-juice.

As early as 1963, Herbert A. Gilbert thought he would replace traditional tobacco with steam, but it wasn't until 40 years later that Hon Lik, a Chinese pharmacy technician, made the first electric cigarette. 1-generation e-cigarette came on the market in Europe in 2007. These looked like regular cigarettes and could not be filled or charged. The development has been going forward ever since.

We haven't been without worries about our e-juice here "home" either. For a few years, there was a lot of talk about "popcorn lungs" and Di Acetyl. Fortunately, most manufacturers realized that they had to do something about, the new thing now is that we want e-juice without sucralose. There are several manufacturers that have already started with this.

We were first handed over a report of 122 pages of professional languages! We quickly realized that this was too difficult for us to decipher and asked for a chat with the scientist. We had an hour-long chat by phone.

He chose this topic to accommodate the desire for more information around the steam from e-cigarettes. 11 different e-juices were purchased from a well-known e-cigarette shop in Sweden. A steam trap was made to catch the aerosol (steam) and he tried to make a simulator that would resemble the way we vape. This was not feasible, and the tests were performed with 10- seconds puff. Tests were performed with an Aspire Aster and Nautilus tank.

List of e-juices used in the test:

- Blueberry - LIQUA
- Peach - LIQUA
- Lemon - Mint VIVO
- Xeo vapor - E-liquid XEO (American Blend Red)
- Unicorn blood - FUZION VAPOR (fruiti and sweet)
- Pirate's loot - VAPING PIRATES (Key Lime Cheesecake)
- Emperor - EJUICE INTERNATIONAL (Tobacco)
- Virginia gold - EJUICE INTERNATIONAL (Mild Tobacco)
- Creamy vanilla - EJUICE INTERNATIONAL
- Raspberry - EJUICE INTERNATIONAL
- Menthol Tobacco - EJUICE INTERNATIONAL

After the steam was caught, the samples were concentrated and analyzed on GC-MS. A total of 129 different components were found. Of these, 30 were identified by external standard and 22 detected. Of these 22, 21 were quantified. (given amount per ml aerosol) See pages 30-47 of the report.

60 known additives with little degree of health risk were found. At least 15 components with possible toxic properties and 2 components of possible carcinogenic character.

It is difficult to give a straight conclusion regarding carcinogens. Many of the aromas are also used in food.

Important to keep in mind here is that in traditional tobacco, there are 5,000 known additives and of them 70 are known as carcinogens.

There were two flavors that stood out compared to the others. It was Peach and Unicorn Blood. There were no differences of importance between remaining fruit flavors and tobacco flavors. He concludes that vaping fruit flavors are no worse/better than tobacco flavors.

Despite the fact that traces of nicotine were found in the nicotine-free juice, he did not see this as a problem as it could stem from poor cleaning at the manufacturer.

Test results also show that more substances emerge at higher temperatures, higher watts and longer puffs.

It was inadvertently done test on aerosol after "dryhit" The result of this was a number of doubling savers of formaldehyde, which we know is dangerous. We therefore advise everyone to avoid this as far as possible.

He attaches great importance to the fact that the substances he found are at macro level and that vaping can still be considered a healthier option than traditional tobacco. The researcher was pleased with his result but wish he had had more time. Throughout the project, new questions were constantly raised on how and why.

In short: It must be admitted that it was terrifying to read about everything that was found. Here many of us have gone around believing that our e-juice did not contain so many substances. This is information we could also/can access at e-juice manufacturers, but we vapors may be too naïve and gullible? Maybe we're just happy that we don't smoke anymore....

But are we going to be hysterical for that reason! English health authorities still argue that vaping is at least 95% better for our health than using traditional tobacco. We avoids 5,000 additives and 70 carcinogens.....

We would like to thank Nordic Light who gave us this report.

Written by Frank Tinmannsvik and Nina Sørting
for Foreningen Norsk Dampselkap