

E-Cigarettes Are Safer Than Smoking - But Aldehydes Need To Go

By Gil Ross — September 1, 2015



^[1]An article in yesterday's *Washington Post* titled "[What's in all that](#)

[vaping smoke?](#) ^[2]" gets thing one wrong before getting one thing right. What it gets wrong is the title, by using the term "vaping smoke", which incorrectly equates combustible cigarette smoke, made by burning tobacco, with e-cigarette vapor, which is not a tobacco product and confuses people who are trying to quit smoking.

The *Washington Post* article is based on two studies: one was led by Dr. James F. Pankow at Portland State University in Oregon, titled [Flavour chemicals in e-cigarette fluids](#) ^[3]and published in the *BMJ Journal's Tobacco Control* earlier this year. It found that "*The concentrations of some flavour chemicals in e-cigarette fluids are sufficiently high for inhalation exposure by vaping to be of toxicological concern. Regulatory limits should be contemplated for levels of some of the more worrisome chemicals*"

The [second study](#) ^[4] was conducted by cardiologist Dr. Konstantinos Farsalinos and colleagues at the Onassis Cardiac Surgery Center, Kallithea, Greece. Their evaluation of e-cigarette flavors in vapor found, disturbingly, that 74 percent of "sweet flavored" vapors contained chemicals of potential concern, among which almost half exceeded levels set by the Occupational Safety and Health Administration (OSHA) for occupationally-exposed workers.

The chemicals of concern highlighted in the *Post's* piece are *aldehydes*, which are known to be especially toxic on inhalation, and *diacetyl*, a similarly toxic ketone (the lung disease called "popcorn lung," known medically as *bronchiolitis obliterans*, is caused by *diacetyl*). This disease is a very rare and irreversible condition and to date has only been characterized in workers with long histories of high-levels of exposures.

This is a concern, because while that has not been detected in e-cigarette users, e-cigarette use has only been around for a decade, and the explosion of vaping is really only a few years old, so there are no reliable data on the long-term effects of inhaling e-cigarette vapor, flavored or not, on human lungs. Cigarettes are still far more harmful, including in their levels of aldehydes and hundreds of other toxic substances, but that is a separate issue; there is no reason for them to be

in vapors.

Given the harm potential, it stands to reason that bans on some of these aldehydes should be considered, because there are currently somewhere in the neighborhood of 7,700 e-cigarette flavors being sold under more than 450 brands and aldehyde-containing flavorings are added in the manufacturing process, especially in sweet flavors such as vanilla and cherry. As Dr. Farsalinos says, and the American Council on Science and Health agrees, these chemicals should be completely removed from e-cigarettes. Why? Because it s a 100 percent avoidable risk.

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Source URL: <https://www.acsh.org/news/2015/09/01/toxins-in-e-cig-vapor-less-than-cigs-but-no-need-for-them>

Links

[1] <http://acsh.org/wp-content/uploads/2015/09/flavored-vapes.jpg>

[2] http://www.washingtonpost.com/national/health-science/whats-in-all-that-vaping-smoke/2015/08/31/57fe8e58-2700-11e5-b72c-2b7d516e1e0e_story.html

[3] <http://tobaccocontrol.bmj.com/content/early/2015/03/27/tobaccocontrol-2014-052175.full>

[4] <http://www.ncbi.nlm.nih.gov/pubmed/25180080>