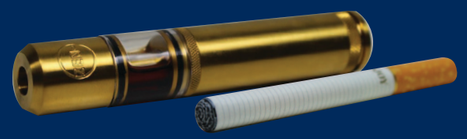

E-cigarette and Vaping - Health Risks

Fact Sheet

ALTHOUGH e-cigarettes are not as harmful as cigarettes, evidence shows that e-cigarettes contain harmful chemicals, not just "water vapor." This presents significant public health concerns.

Here are some of the chemicals that have been identified in e-liquids, aerosols that users inhale, and secondhand vapor that may be inhaled by bystanders.

LEGEND

Body Systems Affected

- lungs & respiratory system (nose, throat)
- cardiovascular system
- central nervous system
- blood and cells
- kidneys
- liver
- muscle and skin systems
- reproductive systems

Health Risks

- carcinogen
- toxin
- irritant

Found In

- e-liquid
- aerosol
- second-hand vapor

Chemical Name	Body Systems Affected	Health Risks	Found In	Chemical Formula	Used As
Propylene glycol (PG)				$C_3H_8O_2$	base liquid
Vegetable glycerin (VG, a.k.a. glycerol)				$C_3H_8O_3$	base liquid
Cinnamaldehyde and **Methoxy-cinnamaldehyde**				C_9H_8O $C_{10}H_{10}O_2$	cinnamon flavoring
Diacetyl, a.k.a. 2,3-Butanedione				$C_4H_6O_2$	buttery, alcohol, or fruit flavorings
Acetyl propionyl, a.k.a. 2,3-Pentanedione				$C_5H_8O_2$	buttery, alcohol, or fruit flavorings
Benzaldehyde				C_7H_6O	cherry flavoring
Nicotine Nicotine used in e-liquids is extracted from tobacco. Because their brains are still developing, children and teens are especially sensitive to nicotine and may become addicted more easily.				$C_3H_8O_2$	highly addictive stimulant

Chemical Name	Body Systems Affected	Health Risks	Found In	Chemical Formula
Acetaldehyde				C_2H_4O
Acrolein				C_3H_4O
Formaldehyde				CH_2O
Toluene				C_7H_8
p,m-Xylene				C_8H_{10}
Butyraldehyde a.k.a. butanal				C_4H_8O
Cadmium				48 Cd Cadmium 112.414
Lead				82 Pb Lead 207.2
Chromium				24 Cr Chromium 51.996
Nickel				28 Ni Nickel 58.693