**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date Due: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**5 Most common Chemicals in flavored Vapes**

**Acrylonitrile**

*Hazard Summary* Exposure to acrylonitrile is primarily occupational: it is used in the manufacture of acrylic acid and modacrylic fibers. Acute (short-term) exposure of workers to acrylonitrile has been observed to cause mucous membrane irritation, headaches, dizziness, and nausea. No information is available on the reproductive or developmental effects of acrylonitrile in humans. Based on evidence in humans and evidence in rats, EPA has classified acrylonitrile as a probable human carcinogen.

**Acrolein**

*Hazard Summary* Acrolein is primarily used as an intermediate in the synthesis of acrylic acid and as a biocide. It may be formed from the breakdown of certain pollutants in outdoor air or from the burning of organic matter including tobacco, or fuels such as gasoline or oil. It is toxic to humans following inhalation, oral or dermal exposures. Acute (short-term) inhalation exposure may result in upper respiratory tract irritation and congestion. No information is available on its reproductive, developmental, or carcinogenic effects in humans, and the existing animal cancer data are considered adequate to make a determination that acrolein is carcinogenic to humans.

**Propylene Oxide**

*Hazard Summary* Propylene oxide is used in the production of polyethers (the primary component of polyurethane foams) and propylene glycol. Acute (short-term) exposure of humans and animals to propylene oxide has caused eye and respiratory tract irritation. Dermal contact, even with dilute solutions, has caused skin irritation and necrosis in humans. Propylene oxide is also a mild central nervous system (CNS) depressant in humans. Inflammatory lesions of the nasal cavity, trachea, and lungs and neurological effects have been observed in animals chronically (long-term) exposed to propylene oxide by inhalation. Propylene oxide has been observed to cause tumors at or near the site of administration in rodents, causing forestomach tumors following ingestion via gavage (experimentally placing the chemical in the stomach) and nasal tumors after inhalation exposure. EPA has classified propylene oxide as a probable human carcinogen.

**Acrylamide**

*Hazard Summary* The largest use for acrylamide is as an intermediate in the production of organic chemicals and in the synthesis of polyacrylamides. Acute (short-term) and chronic (long-term) oral exposures to acrylamide have resulted in damage to the nervous system in humans and animals. Human data is adequate on acrylamide and cancer risk. In rats orally exposed to acrylamide, significantly increased incidences of tumors at multiple sites have been observed. EPA has classified acrylamide as a Group B2, probable human carcinogen.

**Crotonaldehyde**

 *Hazard Summary* The vapour is severely irritating to the skin , the respiratory tract , and is corrosive to the eyes. Inhalation of high concentrations may cause lung oedema. Inhalation of high concentrations may cause death. Medical observation is indicated. When inhaled, may cause abdominal pain, burning sensation, diarrhoea, nausea/vomiting. Corrosive to the eyes and causes redness pain, while on skin severe deep burns, redness and pain. Severe irritant to throat, mouth, lungs and larynx. Extremely flammable and explosive. Linked carcinogenic effects in lab animals is probable for humans.

<https://www.nbcnews.com/health/health-news/teen-inhale-cancer-causing-chemicals-e-cigarettes-n853611>

***Assignment Directions: You will be responsible for creating a informational poster educating the general public on one of the above chemicals used in e-cigarettes/vapes. You will use the information provided for your chemical as well as any additional information that you collect. Your poster must have pictures, color and be clear in the message of how dangerous the chemical is to the human body. Any useful additional information, charts, graphs or images you believe are educational and necessary to help educate society on the dangers is allowed. Use one side of the paper/poster and fill it entirely, use as much space as possible to get your message across on the dangers of the chemical in the e-cigarette/vape. On the back please put your name and class period. Cut, paste, glue, use crayons, colored pencils, markers, or paint! Be creative with this….***