With another summer filled with wildfire smoke, one potential solution that is employed for indoor workers is the use of portable air purifiers. However, not all air purifiers are the same. There are several technologies air purifiers employ for tackling indoor air pollution. Some may actually harm your health. Here are some recommendations from WWU Environmental Health and Safety to select an air purifier to effectively help with wildfire smoke and other airborne particulates.

**USE Mechanical filters!** Air purifiers with pleated filters use fans to force air through a dense web of fine fibers that trap particles. Filters with very fine mesh are HEPA filters—those certified to collect 99.97 percent of particles of a certain size (0.3 micrometers in diameter—smoke and paint pigments, for example). HEPA filters can remove larger particles, too, including dust, pollen, and some mold spores, while they’re suspended in the air. (Note that some filters labeled “HEPA-type” or “HEPA-like” have not been certified to meet the requirements of a true HEPA filter but may still perform adequately).

As for limitations, mechanical filters don’t help with gases or odors. In addition, these filters are not very effective at capturing airborne viral particles, as these can be smaller than 0.3 micrometers. Mechanical filters also need replacing every six to 12 months

**DO NOT USE models that rely solely on activated carbon filters!** Rather than catch particles like mechanical filters, sorbent filters use activated carbon that can adsorb some odor-causing molecules from the air. They may also tackle some gases, but they’re not particularly effective against formaldehyde, ammonia, or nitrogen oxide. Because they don’t combat particles, many air purifiers will have both an activated carbon filter and a pleated filter for catching particles. Activated carbon gets saturated faster than a pleated filter, though, and requires replacement more frequently—every three months, as opposed to every six to 12 months for pleated filters.

**DO NOT USE ozone generators or models with technology that may generate ozone!** These include electrostatic precipitators, ionizers, or photocatalytic oxidation. Studies show that ozone has been linked to decreases in lung function and increased risks of throat irritation, coughing, chest pain, and lung tissue inflammation. Ozone might also worsen asthma, emphysema, and bronchitis, according to the EPA.

**DO NOT USE ultraviolet germicidal irradiation (UVGI) for smoke:** UV lamps are built for different purposes and will not be effective for smoke or most other airborne particles.

**Certifications.** There are a couple of labels to look for on the packaging of the air purifier. The first one is the Energy Star logo. Air purifiers must run around-the-clock to be effective, and you should factor in the energy cost when you shop. Energy Star certified purifiers are 40 percent more energy-efficient than standard models.

You may also see an AHAM Verifide seal, which means that the Association of Home Appliance Manufacturers has tested the model. Many air purifiers have undergone AHAM’s voluntary certification program, which provides clean air delivery rates (CADRs) and room size guidelines on the seal.

CADR reflects, in cubic feet per minute, the volume of clean air that an air purifier produces on its highest speed setting and different ratings will be provided for smoke, dust, and pollen. Look for a CADR rating for smoke of at least 150.

**Room size.** If an air purifier has an AHAM Verifide seal, you can trust that the unit can handle the suggested room size listed on the seal. However, many manufacturers claims for suggested room size are exaggerated. Most air purifiers are not intended for rooms that are over 250 square feet (assuming standard eight foot ceilings).

Please contact EHS at 360-650-3064 or [ehs@wwu.edu](mailto:ehs@wwu.edu) if you need more information on portable air purifiers.