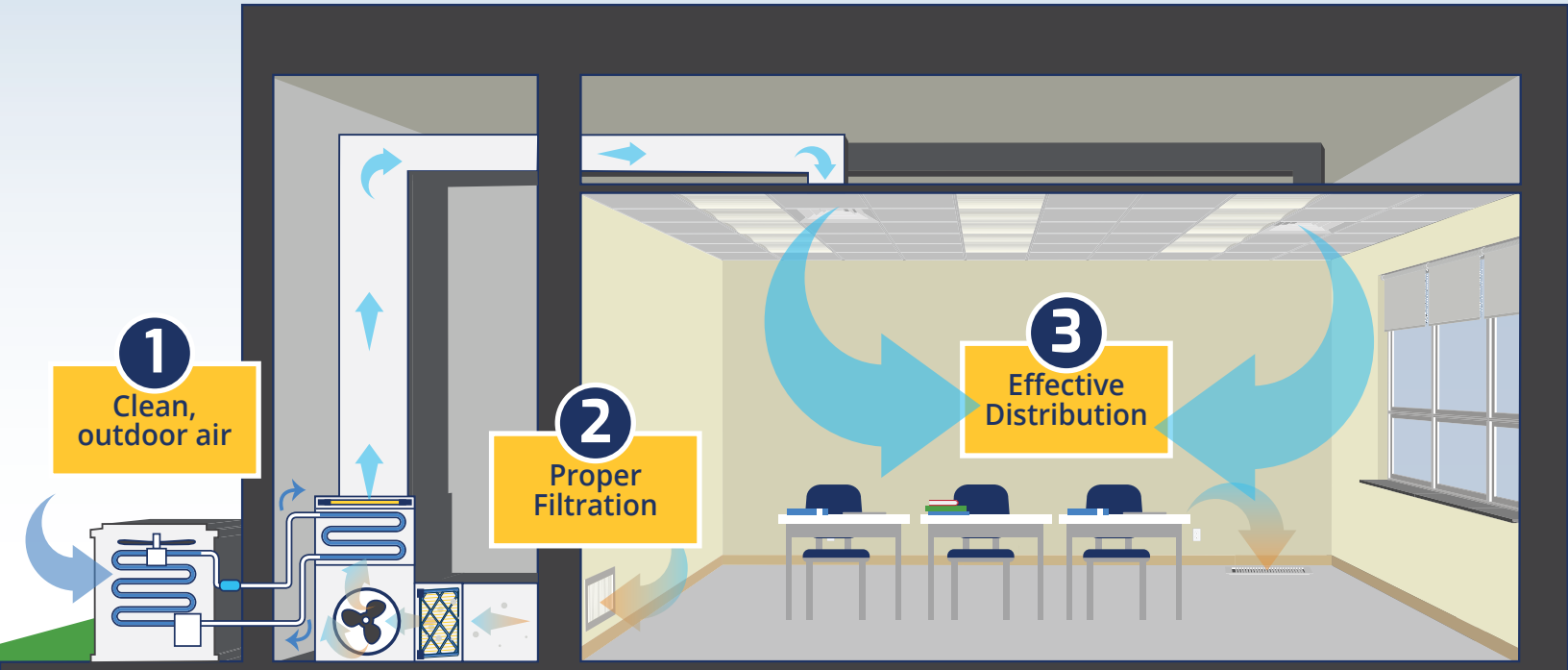
Chemical Insights
An Institute of Underwriters Laboratories Inc.

Keeping Schools Healthy

VENTILATION & FILTRATION FUNDAMENTALS



Ventilation is a critical strategy for diluting and removing pollutants. Fundamentally, this means:

1. Bringing in clean, outdoor air either through mechanical ventilation or natural ventilation (opening windows)
2. Filtering outdoor air and return air to remove airborne contaminants (using a MERV 13 filter or higher), and
3. Effectively delivering that air into the environment so that it reaches the people in the space.

Doing these three steps properly should be the top priority for promoting healthy indoor air quality (IAQ). If done well, you should not need any unproven emerging technologies.

Remember to confirm your HVAC system is compatible with MERV 13 or higher filters. If it is not, consider upgrading your HVAC system. Keep in mind that higher MERV filters need to be changed more frequently. It does not do any good to update the system if you do not maintain it!

ADDITIONAL/SUPPLEMENTAL AIR CLEANING STRATEGIES

Integrate **air cleaning technologies** with HEPA filtration directly into the HVAC system to clean the conditioned air that will be circulated throughout the building. Other technologies should be fully verified by an independent third-party.

Use **stand-alone air cleaners** to supplement the HVAC system in high volume areas or areas with potential pollutants. These units should have verified HEPA filtration and have a clean air delivery rate (CADR) that is 2/3 the volume of the space. Do not use units that introduce ozone into the space.

But beware of gimmicks and uncertified market claims. Schools are being bombarded with new products on the market making ambitious claims. These emerging technologies have often been validated in a laboratory setting, not a classroom. And some may actually have harmful unintended consequences. Follow the science by focusing on the fundamental ventilation strategies.

SCIENCE FOR A SAFER, HEALTHIER TOMORROW.

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