

humidifiers: tips for the use and care of home humidifiers



Humidity is the amount of moisture or water vapor in the air. People tend to feel more

comfortable when the relative humidity is between 35-55 percent. If the humidity is too low, people may be left with physical discomforts such as a dry nose, throat, lips, and skin. Low humidity may also wreak havoc on your home causing static electricity, cracks in furniture, flooring, cabinetry, paint, and peeling wallpaper. High levels of humidity cause problems, such as a room to feel stuffy and for biological contaminants to thrive. We often add or remove moisture to make a room feel more comfortable.

While adding humidity back into the air with a home humidifier might seem to be a logical answer to the problems associated with low levels of humidity, the moisture they add to the air, if excessive, can lead to the growth of biological organisms in the home. These organisms include dust mites, which are microscopic animals that produce materials that can cause allergic reactions and asthma symptoms.

There are four general types of humidifiers:

- Ultrasonic, which create a cool mist by means of ultrasonic sound vibrations.
- Impeller, or “cool mist,” which produce a cool mist by means of a high-speed rotating disk.
- Evaporative, which transmit moisture into the air invisibly by using a fan to blow air through a moistened absorbent material, such as a belt, wick, or filter.
- Steam vaporizer, which create steam by heating water with an electrical heating element or electrodes. “Warm mist” humidifiers are a type of steam vaporizer humidifier in which the steam is cooled before exiting the machine.

Recent studies by the Environmental Protection Agency (EPA) have shown that ultrasonic and impeller (or “cool mist”) humidifiers can disperse materials, such as microorganisms and minerals, from their water tanks into indoor air. Proper care and cleaning of these humidifiers is important for reducing potential exposures to bacterium and molds. The federal government has not concluded that the dispersal of minerals by home humidifiers poses a serious health risk. Nonetheless, using water with lower mineral content will reduce exposures to these materials. The other two types, evaporative and steam vaporizer, though allow growth of microorganisms if they are equipped with a tank that holds standing water, generally disperse less, if any, of these pollutants into the air.

When it comes to ultrasonic and impeller humidifiers, many people question the use of tap water in their reservoirs. Though it has not been proven that using tap water in ultrasonic or impeller humidifiers poses a serious health risk, researchers have documented that these humidifiers are efficient at dispersing minerals from tap water into the air. Some people might be bothered by the “white dust” that may appear on surfaces with the use of these types of humidifiers, and tap water may increase the development of deposits, or scale in humidifiers, which is a breeding ground for microorganisms.

To retard the growth of scale, the EPA recommends that consumers use bottled water labeled “distilled.” Though distilled water still has some mineral content, it will likely contain a lower content than most tap water. Distillation is the most effective technique for removing minerals from water. If tap water must be used, consider using demineralization cartridges, cassettes, or filters if supplied or recommended for use with your humidifier.

The ability of these devices to remove minerals from water varies. Watch for the appearance of “white dust,” which would indicate that minerals are not being removed from the water efficiently.

A humidifier set at the correct moisture setting for existing conditions should only be used when conditions require it. Because the possible health effects resulting from the dispersal of minerals and microorganisms are not fully understood, it may be wise to reduce the potential for personal exposure by taking the following suggestions into consideration, particularly when using ultrasonic and impeller humidifiers.

Suggestions for use and care of home humidifiers:

- Empty the tank, wipe all surfaces dry, and refill the water in portable humidifiers daily to reduce the growth of microorganisms. Be sure you unplug the unit from the electrical socket first.
- Use water with low mineral content to prevent the buildup of scale and the dispersal of minerals into the air.
- Follow manufacturer's instructions on the use of cleaning products or disinfectants.

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For further information:

- American Lung Association® of the Upper Midwest Health House®: www.HealthHouse.org
- American Lung Association: www.LungUSA.org
- Environmental Protection Agency: www.EPA.gov
- Local Department of Health

These tips are brought to you by the American Lung Association® of the Upper Midwest Health House® program. For more information on creating a healthier home environment, visit our website at www.HealthHouse.org.

HEALTH HOUSE
Raising the Standards for Healthier Indoor Environments.

490 Concordia Avenue
St. Paul, MN 55103.2441

Ph - 651.268.7614

Fx - 651.281.0242

Toll-free - 877.521.1491

www.HealthHouse.org

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- Keep steam vaporizer humidifiers out of the reach of children. Steam and boiling water may cause burns.
- Do not humidify to indoor relative humidity levels exceeding fifty percent. Higher humidity levels may encourage the growth of biological organisms in the home. Digital hygrometers, available for purchase at most hardware stores, may be used to measure humidity levels. If water condenses on windows or walls relocate the humidifier, lower the humidifier's setting, or reduce its use.
- Do not permit the area around the humidifier to become damp or wet (*i.e., carpeting, drapes, or table cloths*). If dampness does occur, turn the output of the humidifier down, or use the humidifier sparingly.
- Clean the humidifier, as directed, at the end of the humidifying season or when you know it will not be used frequently. Before storage, make sure all parts are dry and dispose of all used demineralization cartridges, cassettes, or filters.
- Stop using your humidifier and contact your physician if you have respiratory problems, which you believe are associated with periods of use of your home humidifier.

Those with lung diseases, respiratory allergies, the young and the elderly may be particularly susceptible to certain airborne pollutants that home humidifiers disperse into the air. However, if you adhere to recommendations from the manufacturer and follow some simple guidelines for the care of your home humidifier, the potential for dispersal of microorganisms and minerals from your humidifier should be reduced.



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