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The hidden dangers of scented candles

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Scented candles are a popular way to create a pleasant ambiance at home. Scents such as lavender, jasmine and sandalwood can be relaxing and invigorating. And during the holidays, many people find the warm glow and aroma of pine, gingerbread or cinnamon makes a room more festive. Unfortunately, most mass-produced scented candles can have a negative impact on Indoor Air Quality (IAQ). From the wax to the wick to the fragrance itself, the average scented candle can release harmful chemicals into the air — even when unlit. So while you and your family enjoy the fragrance of scented candles in your home, they may be damaging your health.

Paraffin wax

Most candles are made from paraffin, a petroleum byproduct. To create paraffin, petroleum waste is chemically bleached, deodorized and made into wax. When burned, paraffin wax can release toxic volatile organic compounds (VOCs) into the air including acetone, benzene and toluene, which are known carcinogens. These are the same chemicals found in diesel fuel emissions and are known to cause allergies, asthma attacks and skin problems. A study by the University of South Florida showed that candles made of paraffin wax emit low levels of benzene even when they are not lit.

In addition to releasing toxic chemicals, burning paraffin wax produces soot with particles that can remain suspended in the air for hours. The University of South Florida study showed that these ultrafine soot particles are similar to diesel exhaust in both their size and composition. They penetrate deeply into the lungs and are absorbed into the blood stream. Ultrafine particles are associated with allergies, asthma and other respiratory diseases, as well as heart attacks, strokes and even cancer. And a study by the U.S. Environmental Protection Agency showed that soot emissions from candles containing fragrances are significantly higher than those from non-scented candles.

Chemical fragrances

Another problem with scented candles is that the chemicals they use to create a pleasing aroma are generally far from wholesome. Most scented candles use synthetic fragrances and dyes that give off dangerous VOCs even at room temperature. Commonly emitted VOCs related to the scent in candles include formaldehyde, petroleum distillates, limonene, alcohol and esters. These harmful chemicals can cause health problems ranging from headaches, dizziness and allergy symptoms to asthma attacks, respiratory tract infections and even cancer.

Cored wicks

Many candles have cored wicks made from cotton that is wrapped around a metal support. The design helps keep the wick from falling over into the wax. This is especially useful for scented candles, because the fragrance oils soften the wax and allow non-cored wicks to go limp.

In the past, lead was commonly used in cored candlewicks — especially in candles imported from overseas. However, after determining that these wicks could present a lead poisoning hazard to young children, the U.S. Consumer Product Safety Commission banned the manufacture and sale of all candles with lead-core wicks in 2003. Now, zinc and tin are generally used instead. However, all metal-core wicks release trace amounts of heavy metals into the air when they are burned. And wicks with zinc and tin cores can still release small amounts of lead particles.

Safer alternatives

If you still crave the pleasant ambiance and aroma of scented candles, don't despair. There are safer ways to scent the air. Here are some suggestions:

1. **Use essential oils for fragrance.** Essential oils can be placed in a diffuser or in bathwater to create a wonderful aroma.
2. **Simmer spices.** Place spices such as cinnamon sticks, cloves and nutmeg in a pot of water and let it simmer on the stove.
3. **Create potpourri.** Dried items such as flowers, berries, fruit rinds, wood chips and spices can be placed in bowls or fabric bags and placed around your home.

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