

VOCs from Fire & Smoke

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March 2015

Fire and smoke events leave complex particulate and chemical residues that can have a significant effect on health and often leave a lingering smoky odor. These events include intrusion of smoke from wildfires, deposition of smoke residues from indoor fires (structural or affecting a specific area within the structure), and typical indoor sources such as fireplaces and wood stoves, candles, and tobacco smoke.

Although evaluations of particulates for soot/char/ash or elemental carbon are some of the more well-known methods for determining the level of residual smoke contamination, VOCs can be used to assess remaining chemical contamination. Since the VOCs leave no visible sign and can permeate materials not directly affected by the fire, the chemical aspect can be more challenging in terms of both cleanup and testing.

Because the combustion process produces hundreds of different chemicals, select VOCs must be used as indicators. In addition to providing an estimate of the level of residual contamination, these indicators may provide information on the type of material that burned, how long ago the fire occurred, and how long the fire and smoke traces may linger.