

ffective January 1, 2015, a battery-powered smoke alarm that is newly installed or replaces an existing battery-powered smoke alarm [in a one-family or two-family dwelling in Florida] must be powered by a nonremovable, nonreplaceable battery that powers the alarm for at least 10 years." § 553.883, Fla. Stat. As three out of every five home fire deaths occur in homes without working smoke alarms, this new legislation will hopefully reduce that statistic in Florida by mandating the use of smoke alarms that will work for 10 years without a power-failure. But, should Florida have gone even farther by mandating the type of smoke alarms that must be installed in homes? Juries in at least two cases have found that sonization smoke alarms (one of the two different types of smoke alarms on the market) are defectively designed and cannot

be relied upon by consumers to timely warn of fire. Yet, this is the type of alarm installed in most homes throughout the country.

Unbeknownst to many, if not most, consumers, there are two types of smoke alarms: ionization and photoelectric. 'An ionization detector uses a small amount of radioactive material to create charged air particles (ions) in the detection chamber. As smoke particles enter the chamber, they combine with and essentially neutralize the charged

particles. This results in a reduction in electricity which is sensed by the detector's electronic components, triggering an alarm." Mercer 8: Pittosay Corp., 616 N.W.2d 602, 609 (Iowa 2000). "A photoelectric stroke detector uses a source of light, rather than a source of radioactive material, in the detection chamber. When smoke enters the chamber, the smoke particles cause the light particles to reflect and scatter until they eventually hit a sensor, triggering an alarm." Id. Because of these differences, ionization and photoelectric alarms perform differently.

"An ionization detector is more efficient and effective than a photoelectric detector in responding to a flaming fire because such fires generally emit smoke consisting of small smoke particles." Id. "On the other hand, a photoelectric detector may be more sensitive to smoke from a smoldering fire because such fires generally emit smoke consisting of larger sized smoke particles." Id. For this reason, industry experts, such as the National Fire Protection Association, the International Association of Fire Chiefs, and the Consumer Product Safety Commission, recommend that both ionization and photoelectric smoke alarms be installed in every home.

Although tests have shown ionization alarms can detect fast-flame fires slightly faster than photoelectric alarms, they take drastically longer to detect smoldering fires. The National Institute of Standards and Technology conducted tests in which it found ionization alarms took an additional 12-30 minutes to detect smoldering fires than photoelectric alarms. But the ionization alarms detected certain fast-flame fires about only 45 seconds sooner than photoelectric alarms.2 The inability of ionization alarms to timely warn of smoldering fires has prompted some states, such as Vermont and Massachusetts, to enact legislation requiring the use of photoelectric alarms. See Vt. Stat. tit. 9, §2882; 527 Mass. Code Regs. 32.03.

The plaintiffs in Mercer v. Pittury Corp., 616 N.W.2d 602 (Iowa 2000), alleged that the delay of an ionization alarm to alert them to a fire resulted in the death of their three-year old son and catastrophic burn injuries to their eighteen-month-old son. A fire started in the baby monitor located in the children's bedroom. The plaintiffs discovered the fire after smelling smoke from downstairs. The upstairs fire alarm nearest the children's room did not sound until more than twenty minutes after the fire started. The parents successfully brought a products liability action against the smoke alarm manufacturer, obtaining multi-million dollar verdicts for both compensatory and punitive damages. Although the Iowa Supreme Court reversed and remanded for a new trial after holding the trial court improperly admitted evidence of other consumer complaints, it held that the plaintiffs did submit sufficient evidence to send the liability theories of strict liability, breach of warranty, negligent failure to warn, and negligent design to the jury. Id. at 618-627. The product defect was colorfully described by the trial judge as follows:

[A] smoke detector that sounds approximately nineteen minutes after smoke reached its sensing chamber is like an airbag that does not deploy until nineteen minutes after a car accident. Both a detector and an airbag with these frightening "safety" characteristics are worthless in all practical respects carrying out the life saving function to which each is designed. In other words, the Court finds that a smoke detector that does not go off in a timely fashion is the functional equivalent of one that does not go off at all.

Mercer v. Pittway, No. 89732 (Dist. Ct. Iowa, Scott County), 1998 WL 35222492 (May 27, 1998).

The plaintiffs in Hackert v. First Alert, Inc., No. 1:03-cv-216 (N.D. N.Y.), also claimed that the failure of ionization alarms to timely warn of a nearby fire resulted in the deaths of loved ones. An overheated electrical cord began a fire in the living room of the Hackerts' home, which caused a thick black smoke, but none of the fire alarms in the home sounded an alarm. Two of the occupants were unable to escape the home. The jury found the failure of the ionization alarms was due to defective design, and issued a multi-million dollar verdict for plaintiffs, including an award for punitive damages. The Second Circuit Court of Appeals affirmed. Hackert v. First Alert, Inc., 271 Fed. Appx. 31 (2d Cir. 2008).

While these personal injury cases were successful, a purely economic case is currently being tested. Last year, a putative class action was filed in the Northern District of California against First Alert and BRK Brands seeking economic damages under California law for all California consumers who purchased one of defendants' ionization smoke alarms. Bird v. First Alert, Inc., No. C 14-3585 PJH (N.D. Cal. 2014). The district court dismissed all of plaintiff's claims, but allowed leave for the plaintiff to amend her claim under the California Legal Remedies Act, 2014 WL 7248734, at *6 (N.D. Cal. Dec. 19, 2014). Plaintiff's basis for that claim was that the defendant manufacturers fraudulently omitted material disclosures or statements regarding the inability of ionization alarms to timely detect all types of fires. The court dismissed upon finding this claim was not pled with sufficient specificity. But it warned plaintiff that she had "a high hurdle to overcome to state a claim here, given that the First Alarm* packaging explains that the two types of smoke alarms [ionization and photoelectric) respond differently to different types of fires, and recommends that consumers utilize both types." Id. at 7. The time has not yet run for plaintiff to file her amended complaint.

Although Florida's new law will hopefully result in fewer home firerelated injuries and deaths, it should have gone one step further and specified that every Florida home be equipped with photoelectric alarms in addition to the common ionization alarms. And, as most homes are installed with only ionization alarms, counsel investigating any home fire case should determine whether a failure of an ionization alarm to timely sound contributed to the plaintiff's damages.

1 National Institute of Standards and Technology Report given at 12th International Conference on Automatic Fire Detection, available at http://osfm.fire.ca.gov/firelifesafety/pdf/Smoke%20Alarm%20 Task%20Force/R-13%20Response-Time%20Comparisons%20 of%20Ion%20and%20Photo-Heat%20Detectors%20 %28Simplex%29AUBE%202001.pdf 2 Id.





Theodore I. Leapold



Leslie M. Kreeger