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Electronic Cigarettes
Batteries May Cause E-Cigarette Explosions


By Sara Merken

July 25 — Lawsuits against electronic cigarette manufacturers and sellers reveal that fires and explosions caused by the devices may be a result of the type of batteries used in the nicotine-based alternative to traditional tobacco cigarettes.

California man Joseph Cavins lost his left eyeball due to a sudden explosion that caused the device to hit his eye, ricochet off the wall and start a fire at a nearby computer station in his office in April. The force shattered his orbital and sinus bones, the complaint says (*Cavins vs. The Vapor Loft*, Cal. Super. Ct., 30-2016-00853453, 5/19/16)

Other complaints within the last year involve a device that burst into flames in a man's pocket while he was driving on the highway in Illinois, and another where an explosion caused a California man to suffer second and third degree burns on his leg and thumbs (*Anzóna Doland v. HS Wholesale Limited*, Ill. Cir. Ct., 2016-L-006173, 6/22/16 and *Kevin Endo vs. The Vapor Spot*, Cal. Super. Ct., BC606732, 1/11/16).

Shernoff, Bidart, Echeverria, Bentley LLP, the California-based firm representing Cavins, is currently also handling about 70 other e-cigarette lawsuits, trial lawyer Greg Bentley told Bloomberg BNA.

News outlets reported 15 fires or explosions from e-cigarettes 2015, and the total does not include incidents unnoticed by the media, a National Fire Protection Association report says. Exploding devices caused injuries such as neck fractures, severe burns, broken teeth, and other damages requiring stitches or amputation.

With the continuous rise in e-cigarette use "it can be reasonably anticipated that the incidence of fires and explosions will also increase," the NFPA report says.

Lithium-Ion Batteries

Connecting e-cigarettes to battery power adapters that were not approved by the manufacturer may be the primary cause of many fires, the report says.

"Few, if any, customers understand that not all USB ports are 'created equal,'" the report says. The U.S. Fire Administration encourages e-cigarette customers to only use the appliance that comes with the product, the report says.

The lithium-ion batteries used in e-cigarettes "have an inherent risk of fire and explosion," especially when combined with the heating element to turn liquid into vapor in the device, the complaint says. Additionally, the cylindrical structure of the device can cause e-cigarettes to be "propelled like a bullet or rocket" if the battery fails, the complaint says.

In 2014, 20 of the 25 incidents occurred when users were charging the battery. The other incidents happened while in use, the 2014 U.S. Fire Administration report finds.

"The industry should come together and embrace regulation that would ensure that the batteries are safely made and have proper circuitry to prevent over voltage charging so that explosions will stop," Bentley said.

New FDA Regulations

The Food and Drug Administration extended its authority over all tobacco products, including e-cigarettes, the FDA announced on May 5, 2016.

The regulations, which go into effect Aug. 8, 2016, focus on public health and require e-cigarette companies to register the manufacturing establishments, report ingredients, obtain pre-market authorization of new products, and provide health warnings on device packages and advertisements, the statement said.

But, the regulations don't address manufacturing guidelines for safety, Bentley said.

Snapshot

- Lithium-ion batteries may cause e-cigarette fires and explosions
- 80% of incidents in 2014 occurred when charging device battery
- New FDA authority includes e-cigarette battery regulations

"The proposed regulations are a good first step for making this industry a little safer, but it is geared more towards usage and materials within the devices," Bentley said.

"The industry is fighting regulation. That is shocking to me," he said.

On the other hand, The FDA says that the regulations acknowledge the problems with batteries in the devices and are taking strides toward a solution, Michael Felberbaum, a press officer for the FDA, told Bloomberg BNA in an e-mail.

"The FDA remains concerned about adverse events associated with the use of electronic nicotine delivery systems (ENDS)... including overheating and exploding batteries," he said.

Felberbaum provided the agency's draft guidance on the premarket authorization process that will help "enable the FDA to assess the risks of a battery that would be used in a product," he said. The draft report asks companies to include information about battery voltage, amperage, wattage, testing certificates, and more, the report says.

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