

## Fact or Fiction?: Fiery Fumes from a Chili Sauce Factory Could Cause Health Problems

Some California townspeople were literally in tears over a spicy smell from a hot sauce maker

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By now, the legal battle over irritating odors wafting from a Sriracha chili sauce factory in Irwindale, Calif., has hit the mainstream media, and the possibility of an impending “#srirachapocalypse” strikes terror into the hearts of zealous Sriracha fans everywhere.

Last October townspeople started to complain about a foul odor emanating from the Huy Fong Foods factory in town. The effusion occurred during the chili-grinding phase of its Sriracha chili sauce production. Citizens objected that the fumes caused health problems, including eye and throat irritation, and aggravated asthma. After a series of legal proceedings a judge ordered Huy Fong in November to cease all odor-emitting productions until the factory owner could resolve their miasmatic mess.

But the judge also admitted there was a “lack of credible evidence” linking chili pepper odors to the asserted health problems. A short while later Huy Fong hung a banner outside its factory that read, “No Tear Gas Made Here.” So what can science say about the Sriracha showdown? Could Huy Fong’s chili grinding have brought alleged tears to the townspeople’s eyes? For those who partake in fiery fare, those who prefer a blander gustatory journey as well as those who remain agnostic on the matter, here is the scientific take on this heated debate.

The answer is yes—if you’re talking about people’s exposure to capsaicin, a potent compound that, depending on concentration, gives chili peppers a taste range from tangy to blistering hot. The capsaicin molecule interacts with temperature receptors on the human body—on the mouth, throat, skin—and signals “hot” to the brain. “You could call capsaicin an irritant,” says Paul Bosland (aka Chileman), a professor of horticulture and director of the **Chile Pepper Institute** at New Mexico State University in Las Cruces, “The brain is being tricked by a chemical signal instead of the real physical temperature signal, and it’s saying, ‘Okay, you’re in danger here, you’re being burned.’”

Capsaicin can cause major eye and throat irritation as well as respiratory problems. Pepper spray, for example, is a concentrated, aerosolized form of capsaicin that makes people’s eyes sting and skin burn, and it can also create difficulty breathing. The potency of capsaicin’s effects hinges on the level of exposure, along with an individual’s unique response to the chemical. People have varying numbers of capsaicin receptors on their bodies, and those with a greater number of receptors are more sensitive to the compound. “If



you look at people who eat hot foods,” Bosland says, “some people have a greater sensitivity to the capsaicin than others. And those who have more sensitivity usually don’t like their food so hot.”

The same goes for the amount of capsaicin in the air—say, emitted by a factory grinding chili peppers for their hot sauce. This could explain why some citizens were not bothered by the aroma released from the Huy Fong factory whereas others couldn’t take the heat.

The health problems purportedly caused by Huy Fong’s capsaicin emissions should simmer down for now. Chili-crushing season ended before the judge ruled in favor of Irwindale last year, so the factory won’t produce any more of the irritating chemical until the fall, and there shouldn’t be a feared Sriracha shortage in 2014. The city and Huy Fong are now trying to settle on a filtration system that’s economically feasible for the business but will also stop the spicy pollution. Court will reconvene in November for a judge to decide whether Huy Fong has sufficiently solved the public nuisance—just in time for chili-grinding season in the fall.

Sriracha fans, cross your fingers...and hold your breath.