



## **The Xcaper Smoke Mask makes a difference when it comes to surviving in a smoke filled env.**

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The light smoke slowly seeped down from the air diffusers totally unseen by the workers busy below. Above, in the open space between the hung ceiling and the floor above, the plenum as it's called, was rapidly filling with hot dark smoke. The base of the fire, burning unseen in a closet storage area remote from the work force was doubling in size every thirty seconds as it gobbled up air and consumed all the flammables nearby. The noxious mix of unburned fuel and volatile fire gases pressed down and outwards across the open spaces above the work areas. The fire blossomed with a fury as it reached stored flammable liquids. The plastic containers melted spreading their contents across the floor with lightning speed. The fire burst through the door and into the hallway.

The fire alarm system sounded and workers glanced up from their chores. Some noticed the light haze starting to build across the ceiling and began to make their way towards the exit. Several missed the signs of danger and paid little attention to the annoying noise.

With the ignition of the flammable liquids, the fire raged sending super heated gases into the plenum. The gases ignited wire insulation and plastics adding fuel to the expanding smoke and gases pulsing through the confined space overhead. Reaching a critical state the super heated smoke descended under pressure from the space above and filled the floor area in a matter of seconds.

Visibility in the workspace went from clear to pitch black in a matter of seconds. Thick clouds of smoke chugged across the floor fed by the spreading fire. Those that left early were in the fire stairs making their way safely down past the lower floors and out into the street. Those that lingered now faced a wall of smoke. They could not see or breathe. Gasping, they plunged towards where they believed the exits were. Some guessed right. Some did not.

People who left immediately would have an easy time of it. Those that dawdled could face fire stairs filling with a choking deadly smoke. It was a roll of the dice.

For the untrained to venture through smoke and attempt to navigate, even in familiar territory, without any type of advantage is a risk not worth taking. Luckily, in this day and age there is a product that can make a difference when it comes to surviving in a smoke filled environment. It's called the Xcaper Smoke Mask.

According to James Lee, P.E., a licensed professional chemical engineer, the Xcaper works very simply. "The water based Aloe Vera gel absorbs the smoke particulates and toxic gases, and still allows the wearer to both see and breathe easily. The mask also works in conditions that would cause others to fail including exposure to water from fire sprinklers and steam."

The mask's ability to absorb up to 90% of carbon monoxide, the most plentiful and deadly gas produced during a fire, is what will save your life. Those exposed to carbon monoxide at

concentrations less than 100 ppm (parts per million) will have symptoms of mild poisoning including headaches and dizziness. The real danger at a fire is the high levels of carbon dioxide that are present. Concentrations as low as 667 ppm can cause up to 50% of the body's hemoglobin to be converted to carboxy-hemoglobin. This change is irreversible. The body is unable to deliver oxygen where needed despite the administration of medical oxygen immediately after being removed from the toxic smoke. As a result, exposures at this level can be life-threatening.

As a firefighter for more than thirty years, I have experienced severe smoke conditions in homes, apartments, high-rise office buildings and in train and subway tunnels. I tested this product personally by remaining for more than fifteen minutes in a heavy smoke condition with carbon monoxide readings of more than two thousand parts per million wearing only the Xcaper mask. Several of my partners wore other escape devices that worked reasonably well with one glaring problem: fogging. The goggles provided with the Xcaper did not fog, even under these extreme conditions. My partners wore various smoke hoods with filters and each suffered heavy condensation inside their plastic hoods. They were able to exit the testing area because I led them out.

I would not live or work in any building without having an Xcaper within easy reach. That goes for mass transit as well.

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