

The Lethal Killer You Can't See or Smell

By Mike Martin, CBN News 5/6/13

MARYLAND -- You can't see it, smell it, or taste it, but too much of it can be explosive -- literally. We're talking about methane gas.

Landfills and dump sites are a primary source of methane, and they can be danger spots if not properly maintained.

Americans produce a lot of trash. In 2010, the Environmental Protection Agency says Americans threw away about 250 million tons of it. All that decomposing waste produces the toxic gas. In fact, landfills are the third largest source of methane emissions in the country.

"Decomposing trash doesn't just disappear," Fred Tutman, an environmental advocate, told CBN News. "It transforms. Like all forms of matter, it goes into a different state. One of those states is gas -- methane gas. Carbon dioxide is another."

Why You Should Care

Here's why Tutman says you should care: if a landfill or dump site isn't properly built or maintained, methane can escape and invade basements or enclosed spaces of nearby homes and buildings.

"It can cause problems that no one ever considered or even dreamed of when this stuff was originally put in the ground," Tutman said.

Perhaps the biggest problem of methane is its explosive nature.

"It's enough to say that methane can make things go boom," Tutman warned.

"If it had accumulated in a space where there was an ignition source, and the homes behind us... there's pilot lights for your water heater, for your heater itself, so those are sources of ignition," Mick Butler, the chief of the environmental division at Ft. Meade, Md., explained to CBN News. "A hot radiator, you pull your car in your garage -- those types of hazards that in the house would be your typical flame that could ignite those things."

Butler and other leaders at Ft. Meade know all too well what it's like to face methane as an enemy. As a safety precaution, they evacuated 20 homes at the Army post. Due to the ongoing battle with methane and explosion concerns, the homes have sat empty for eight years.

"It was something that we never thought that we would ever have to deal with, but I had the full confidence in the team here at Ft. Meade and our housing partner," Debra Faux, the chief of housing at Ft. Meade, shared with CBN News. "We did the right thing; we made the right decision."

A Community Saved

Underneath a Ft. Meade field, officials discovered a World War II-era dump site. While its leftover artifacts painted a picture of the mid-1940s, it also contained a lot of methane-generating trash.

"The operational practice at that time was simply, for landfilling, was to dig a hole and put your waste in the hole," Ft. Meade's restoration manager, Paul Fluck, told CBN News. "That was the standard of practice at the time."

To comply with the EPA, today's landfills must include a liner to prevent methane and other hazardous materials from leaking into the soil, groundwater, pipes and buildings.

During the 40s, that wasn't the case, so as you can imagine, methane levels spiked around the field.

"My feelings were really quite profound," Fluck said. "My job is to ensure the safety and protection of the community here, and I really felt it personally that it was important to do something permanent as quickly as possible."

That included evacuating families because of the potential for explosions, and since methane can make people sick, the trash needed to go, too -- around 27,000 tons, or a thousand truckloads.

Workers then capped off the historic landfill and converted it to green space. The total cost amounted to \$2.5 million.

Leaders at Ft. Meade believe it's worth it.

"You could not get any more high on a list of concerns than a site adjacent to a family housing area and an elementary school," Butler said. "So as a father, as a person, the safety of those occupants was prime on your list, and it couldn't have gotten any worse for us to have this location here in that close proximity."

Harnessing Methane

In addition to lining landfills, what are other solutions to prevent methane from harming people and the environment? In some cases, the methane that's generated from decaying trash is reclaimed or harnessed and then used to power another area facility.

"Some sites now are actually harvesting the gas because there's an opportunity to use this flammable, combustible gas to generate energy, power, run automobiles, for power generation basically," Tutman said.

"Generally, it's either electricity of some type, putting it back on the grid, or using it to run buildings that are located close by," Butler explained.

Regardless if it's eventually harnessed and reused, methane needs to be properly contained and controlled.

As they continue to monitor methane levels around the grassy field at Ft. Meade, environmental leaders hope to eventually put people back in the evacuated homes.

They see the project as a true success story, but at the same time, advise you to educate yourself by visiting state and local websites to find out if a landfill or dump site near your home is truly secure.