

Toxic gas adds to a long history of pollution in southwest Memphis

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For many years, Rose Sims had no idea what was going on inside a nondescript brick building on Florida Street a couple of miles from her modest one-story home on the southwestern side of town.

Like other residents, she got an unwelcome surprise in October 2022 at a public forum held by the Environmental Protection Agency at the

historic Monumental Baptist Church, known for its role in the civil rights movement. The EPA notified the predominantly Black community that Sterilization Services of Tennessee—which began operations in the brick building in the 1970s—had been emitting unacceptably high levels of ethylene oxide, a toxic gas commonly used to disinfect medical devices.

Airborne emissions of the colorless gas can increase the risk of certain medical conditions, including breast cancer. Sims, who is 59 and Black, said she developed breast cancer in 2019, despite having no family history of it, and she suspects ethylene oxide was a contributing factor.

"I used to be outside a lot. I was in good health. All of a sudden, I got breast cancer," she said.

Local advocates say the emissions are part of a pattern of environmental racism. The term is often applied when areas populated primarily by racial and ethnic minorities and members of low-socioeconomic backgrounds, like southwest Memphis, are burdened with a disproportionate amount of health hazards.

The drivers of environmental racism include the promise of tax breaks for industry to locate a facility in a heavily minority community, said Malini Ranganathan, an urban geographer at American University in Washington, D.C. The cheaper cost of land also is a factor, as is the concept of NIMBY—or "not in my backyard"—in which power brokers steer possible polluters to poorer areas of cities.

A manager at Sterilization Services' corporate office in Richmond, Virginia, declined to answer questions from KFF Health News. An attorney with Leitner, Williams, Dooley & Napolitan, a law firm that represents the company, also declined to comment. Sterilization Services, in a legal filing asking for an ethylene oxide-related lawsuit to

be dismissed, said the use of the gas, which sterilizes about half the medical devices in the U.S., is highly regulated to ensure public safety.

Besides southwest Memphis, there are nearly two dozen locales, mostly small cities—from Athens, Texas, to Groveland, Florida, and Ardmore, Oklahoma—where the EPA said in 2022 that plants sterilizing medical devices emit the gas at unusually high levels, potentially increasing a person's risk of developing cancer.

The pollution issue is so bad in southwest Memphis that even though Sterilization Services planned to close shop by April 30, local community leaders have been hesitant to celebrate. In a letter last year to a local Congress member, the company said it has always complied with federal, state, and local regulations. The reason for its closure, it said, was a problem with renewing the building lease.

But many residents see it as just one small win in a bigger battle over environmental safety in the neighborhood.

"It's still a cesspool of pollution," said Yolonda Spinks, of the environmental advocacy organization Memphis Community Against Pollution, about a host of hazards the community faces.

The air in this part of the city has long been considered dangerous. An oil refinery spews a steady plume of white smoke. A coal plant has leaked ash into the ground and the groundwater.

The coal plant was replaced by a natural gas power plant, and now the Tennessee Valley Authority, which provides electricity for local power companies, plans to build a new gas plant there. A continual stream of heavy trucks chug along nearby highways and roads. Other transportation sources of air pollution include the Memphis International Airport and barge traffic on the nearby Mississippi River.

Lead contamination is also a concern, not just in drinking water but in the soil from now-closed lead smelters, said Chunrong Jia, a professor of environmental health at the University of Memphis. Almost all the heavy industry in Shelby County—and the associated pollutants—are located in southwest Memphis, Jia added.

Sources of pollution are often "clustered in particular communities," said Darya Minovi, a senior analyst with the Union of Concerned Scientists, a nonprofit that advocates for environmental justice. When it comes to sterilizing facilities that emit ethylene oxide, areas inhabited largely by Black, Hispanic, low-income, and non-English-speaking people are disproportionately exposed, the group has found.

Four sites that the EPA labeled high-risk are in low-income areas of Puerto Rico. Seven sterilizer plants operate in that U.S. territory.

The EPA, responding to public concerns and to deepened scientific understanding of the hazards of ethylene oxide, recently released rules that the agency said would greatly reduce emissions of the toxic gas from sterilizing facilities.

KeShaun Pearson, who was born and raised in south Memphis and has been active in fighting environmental threats, said he is frustrated that companies with dangerous emissions are allowed to create "toxic soup" in minority communities.

In the area where the sterilization plant is located, 87% of the residents are people of color, and, according to the Southern Environmental Law Center, life expectancy there is about 10 years lower than the average for the county and state. The population within 5 miles of the sterilizer plant is mostly [low-income](#), according to the Union of Concerned Scientists.

Pearson was part of Memphis Community Against the Pipeline, a group

formed in 2020 to stop a crude oil pipeline that would have run through Boxtown, a neighborhood established by emancipated slaves and freedmen after the signing of the Emancipation Proclamation of 1863.

That campaign, which received public support from former Vice President Al Gore and actress-activist Jane Fonda, succeeded. After the ethylene oxide danger surfaced in 2022, the group changed the last word of its name from "pipeline" to "pollution."

Besides breast and lymphoid cancers, animal studies have linked inhaling the gas to tumors of the brain, lungs, connective tissue, uterus, and mammary glands.

Last year, with the help of the Southern Environmental Law Center, the south Memphis community group urged the Shelby County Health Department to declare the ethylene oxide situation a public health emergency and shut down the sterilizing plant. But the health department said the company had complied with its existing air permit and with the EPA's rules and regulations.

A health department spokesperson, Joan Carr, said Shelby County enforces EPA regulations to ensure that companies comply with the federal Clean Air Act and that the agency has five air monitoring stations around the county to detect levels of other pollutants.

When the county and the Tennessee Department of Health did a cancer cluster study in 2023, the agencies found no evidence of the clustering of high rates of leukemia, non-Hodgkin lymphoma, or breast or stomach cancer near the facility. There were "hot and cold spots" of [breast cancer](#) found, but the study said it could not conclude that the clusters were linked to the facility.

Scientists have criticized the study's methodology, saying it did not

follow the Centers for Disease Control and Prevention's recommendations for designing a cancer cluster investigation.

Meanwhile, several people have sued the sterilizing company, claiming their health has been affected by the [ethylene oxide](#) emissions. In a lawsuit seeking class-action status, Reginaé Kendrick, 21, said she was diagnosed with a brain tumor at age 6. Chemotherapy and radiation have stunted her growth, destroyed her hair follicles, and prevented her from going through puberty, said her mother, Robbie Kendrick.

In response to proposed stricter EPA regulations, meanwhile, the Tennessee attorney general helped lead 19 other state AGs in urging the agency to "forgo or defer regulating the use of EtO by commercial sterilizers."

Sims said she's glad her neighborhood will have one less thing to worry about once Sterilization Services departs. But her feelings about the closure remain tempered.

"Hope they don't go to another residential area," she said.

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